
**User's
Manual**



**FA-M3 Programming Tool
WideField3
(Introduction and Troubleshooting)**

IM 34M06Q16-01E

vigilantplant.®

Applicable Product:

- **Range-free Multi-controller FA-M3**

- Model Name: SF630-MCW
- FA-M3 Programming Tool WideField3

The document number and document model code for this manual are given below.

Refer to the document number in all communications; also refer to the document number or the document model code when purchasing additional copies of this manual.

- Document No.: IM 34M06Q16-02E
- Document Model Code: DOCIM

Important

■ About This Manual

- This Manual should be passed on to the end user.
- Before using the controller, read this manual thoroughly to have a clear understanding of the controller.
- This manual explains the functions of this product, but there is no guarantee that they will suit the particular purpose of the user.
- Under absolutely no circumstances may the contents of this manual be transcribed or copied, in part or in whole, without permission.
- The contents of this manual are subject to change without prior notice.
- Every effort has been made to ensure accuracy in the preparation of this manual. However, should any errors or omissions come to the attention of the user, please contact the nearest Yokogawa Electric representative or sales office.

■ Symbols Related to Safety



Danger. This symbol on the product indicates that the operator must follow the instructions laid out in this user's manual to avoid the risk of personnel injuries, fatalities, or damage to the instrument. Where indicated by this symbol, the manual describes what special care the operator must exercise to prevent electrical shock or other dangers that may result in injury or the loss of life.



Protective Ground Terminal. Before using the instrument, be sure to ground this terminal.



Function Ground Terminal. Before using the instrument, be sure to ground this terminal.



Alternating current. Indicates alternating current.



Direct current. Indicates direct current.

The following symbols are used only in the user's manual.



WARNING

Indicates a "Warning".

Draws attention to information essential to prevent hardware damage, software damage or system failure.



CAUTION

Indicates a "Caution".

Draws attention to information essential to the understanding of operation and functions.

TIP

Indicates a "TIP".

Gives information that complements the present topic.

SEE ALSO

Indicates a "SEE ALSO" reference.

Identifies a source to which to refer.

■ Safety Precautions when Using/Maintaining the Product

- For the protection and safe use of the product and the system controlled by it, be sure to follow the instructions and precautions on safety stated in this manual whenever handling the product. Take special note that if you handle the product in a manner other than prescribed in these instructions, the protection feature of the product may be damaged or impaired. In such cases, Yokogawa cannot guarantee the quality, performance, function and safety of the product.
- When installing protection and/or safety circuits such as lightning protection devices and equipment for the product and control system as well as designing or installing separate protection and/or safety circuits for fool-proof design and fail-safe design of processes and lines using the product and the system controlled by it, the user should implement it using devices and equipment, additional to this product.
- If component parts or consumable are to be replaced, be sure to use parts specified by the company.
- This product is not designed or manufactured to be used in critical applications which directly affect or threaten human lives and safety — such as nuclear power equipment, devices using radioactivity, railway facilities, aviation equipment, shipboard equipment, aviation facilities or medical equipment. If so used, it is the user's responsibility to include in the system additional equipment and devices that ensure personnel safety.
- Do not attempt to modify the product.
- In order to prevent electrical shock, turn off all the power sources before connecting wires, etc.
- This product is classified as Class A for use in industrial environments. If used in a residential environment, it may cause electromagnetic interference (EMI). In such situations, it is the user's responsibility to adopt the necessary measures against EMI.

■ Exemption from Responsibility

- Yokogawa Electric Corporation (hereinafter simply referred to as Yokogawa Electric) makes no warranties regarding the product except those stated in the WARRANTY that is provided separately.
- Yokogawa Electric assumes no liability to any party for any loss or damage, direct or indirect, caused by the use or any unpredictable defect of the product.

■ Software Supplied by the Company

- Yokogawa Electric makes no other warranties expressed or implied except as provided in its warranty clause for software supplied by the company.
- Use the software with one computer only.
- You must purchase another copy of the software for use with each additional computer.
- Copying the software for any purposes other than backup is strictly prohibited.
- Store the original media that contain the software in a safe place.
- Reverse engineering, such as decompiling of the software, is strictly prohibited.
- Under absolutely no circumstances may the software supplied by Yokogawa Electric be transferred, exchanged, or sublet or leased, in part or as a whole, for use by any third party without prior permission by Yokogawa Electric.

■ General Requirements for Using the FA-M3 Controller

● Set the product in a location that fulfills the following requirements:

- Where the product will not be exposed to direct sunlight, and where the operating surrounding air temperature is from 0°C to 55°C (32°F to 131°F).

There are modules that must be used in an environment where the operating surrounding air temperature is in a range smaller than 0°C to 55°C (32°F to 131°F). Refer to hardware user's manual or the applicable user's manual. In case of attaching such a module, the entire system's operating surrounding air temperature is limited to the module's individual operating surrounding air temperature.

- Where the relative humidity is from 10 to 90%.
In places where there is a chance of condensation, use a space heater or the like to constantly keep the product warm and prevent condensation.
- For use in Pollution Degree 2 Environment.
- Where there are no corrosive or flammable gases.
- Where the product will not be exposed to mechanical vibration or shock that exceed specifications.
- Where there is no chance the product may be exposed to radioactivity.

● Use the correct types of wire for external wiring:

- USE COPPER CONDUCTORS ONLY.
- Use conductors with temperature ratings greater than 75°C.

● Securely tighten screws:

- Securely tighten module mounting screws and terminal screws to avoid problems such as faulty operation.
- Tighten terminal block screws with the correct tightening torque. Refer to the hardware user's manual or the applicable user's manual for the appropriate tightening torque.

● Securely lock connecting cables:

- Securely lock the connectors of cables, and check them thoroughly before turning on the power.

● Interlock with emergency-stop circuitry using external relays:

- Equipment incorporating the FA-M3 controller must be furnished with emergency-stop circuitry that uses external relays. This circuitry should be set up to interlock correctly with controller status (stop/run).

● Ground for low impedance:

- For safety reasons, connect the [FG] grounding terminal to a Japanese Industrial Standards (JIS) Class D (earlier called Class 3) Ground^{*1}. For compliance to CE Marking, use braided or other wires that can ensure low impedance even at high frequencies for grounding.

^{*1} Japanese Industrial Standard (JIS) Class D Ground means grounding resistance of 100 Ω max.

- **Configure and route cables with noise control considerations:**

- Perform installation and wiring that segregates system parts that may likely become noise sources and system parts that are susceptible to noise. Segregation can be achieved by measures such as segregating by distance, installing a filter or segregating the grounding system.

- **Configure for CE Marking Conformance:**

- For compliance with CE Marking, perform installation and cable routing according to the description on compliance to CE Marking in the “Hardware Manual”.

- **We recommend that you stock up on maintenance parts:**

- We recommend that you stock up on maintenance parts, including spare modules, in advance.
- Preventive maintenance (replacement of the module) is required for using the module beyond 10 years.

- **Discharge static electricity before touching the system:**

- Because static charge can accumulate in dry conditions, first touch grounded metal to discharge any static electricity before touching the system.

- **Wipe off dirt with a soft cloth:**

- Gently wipe off dirt on the product’s surfaces with a soft cloth.
- If you soak the cloth in water or a neutral detergent, tightly wring it out before wiping the product.
Letting water enter the module interior can cause malfunctions.
- Do not use volatile solvents such as benzine or paint thinner or chemicals for cleaning, as they may cause deformity, discoloration, or malfunctioning.

- **Avoid storing the FA-M3 controller in places with high temperature or humidity:**

- Since the CPU module has a built-in battery, avoid storage in places with high temperature or humidity.
- Since the service life of the battery is drastically reduced by exposure to high temperatures, take special care (storage surrounding air temperature should be from –20°C to 75°C).
- There is a built-in lithium battery in a CPU module which serves as backup power supply for programs, device information and configuration information. The service life of this battery is more than 10 years in standby mode at room temperature. Take note that the service life of the battery may be shortened when installed or stored at locations of extreme low or high temperatures. Therefore, we recommend that modules with built-in batteries be stored at room temperature.

- **Always turn off the power before installing or removing modules:**

- Failing to turn off the power supply when installing or removing modules, may result in damage.

● **Do not touch components in the module:**

- In some modules you can remove the right-side cover and install ROM packs or change switch settings. While doing this, do not touch any components on the printed-circuit board, otherwise components may be damaged and modules may fail to work.

● **Do not use unused terminals:**

- Do not connect wires to unused terminals on a terminal block or in a connector. Doing so may adversely affect the functions of the module.

● **Use the following power source:**

- Use only power supply module F3PU□□-□□ in FA-M3 Controller for supplying power input for control circuit connection.
- If using this product as a UL-approved product, for the external power supply, use a limited voltage / current circuit power source or a Class 2 power source.

● **Refer to the user's manual before connecting wires:**

- Refer to the hardware user's manual or the applicable user's manual for the external wiring drawing.
- Refer to "A3.6.5 Connecting Output Devices" in the hardware user's manual before connecting the wiring for the output signal.
- Refer to "A3.5.4 Grounding Procedure" in the hardware user's manual for attaching the grounding wiring.

■ Waste Electrical and Electronic Equipment



Waste Electrical and Electronic Equipment (WEEE), Directive 2002/96/EC

(This directive is only valid in the EU.)



This product complies with the WEEE Directive (2002/96/EC) marking requirement. The following marking indicates that you must not discard this electrical/electronic product in domestic household waste.

Product Category

With reference to the equipment types in the WEEE directive Annex 1, this product is classified as a “Monitoring and Control instrumentation” product.

Do not dispose in domestic household waste.

When disposing products in the EU, contact your local Yokogawa Europe B. V. office.

■ How to Discard Batteries

The following description on DIRECTIVE 2006/66/EC (hereinafter referred to as the EU new directive on batteries) is valid only in the European Union.

Some models of this product contain batteries that cannot be removed by the user. Make sure to dispose of the batteries along with the product.

Do not dispose in domestic household waste.

When disposing products in the EU, contact your local Yokogawa Europe B. V. office.

Battery type: Lithium battery



Note: The symbol above means that the battery must be collected separately as specified in Annex II of the EU new directive on batteries.

Introduction

■ About This Manual

The WideField3 manual set consists of the following four volumes.

Table 1 Manual List

Volume	Document No.
Introduction and Troubleshooting	IM 34M06Q16-01E
Offline	IM 34M06Q16-02E
Online	IM 34M06Q16-03E
Script	IM 34M06Q16-04E

This manual is the operation manual, Introduction and Troubleshooting, for the Range-free Multi-controller FA-M3 Programming Tool (known as WideField3 in this manual).

■ Overview of This Manual

This manual describes how to install, utilize and troubleshoot WideField3.

For enquiries, please contact the store where you purchased the product or the nearest Yokogawa sales office listed at the back of this manual.

We recommend using this manual together with the operation manuals of your computer or printer, as required.

■ Structure of the Manual

This manual consists of 3 parts: A, B and C.

Part A is targeted at first-time users of WideField3, as well as users migrating from WideField (SF610) or WideField2 (SF620) to WideField3. It describes the operating environment and basic specifications of the WideField3 software, as well as steps for installing WideField3.

Part B describes advanced and efficient use of WideField3 that facilitates various user operations.

Part C describes troubleshooting of WideField3.

PART A Startup Manual

A1. Overview

Gives an overview of WideField3 and describes functional differences in comparison to WideField2 (SF620), as well as restrictions of WideField3.

A2. Operating Environment

Describes the operating environment of WideField3.

A3. Basic Specifications

Describes the screen layouts, list of functions, as well as basic specifications such as key operation.

A4. Installing and Starting WideField3

Describes how to install and setup WideField3, how to uninstall and remove WideField3 from a personal computer, as well as to how to start and exit from WideField3.

PART B Advanced User's Manual

B1. Storing Comments to CPU and Restoring Comments

Describes the various states of comment data as stored in CPU, as well as the precautions and operation when comments are displayed or manipulated online.

B2. Updating Programs after a Change in the I/O Module Slot Position

Describes how to easily update a program when an I/O module is moved to a different installed slot position.

B3. How to Rapidly Enter and Modify Instructions and Parameters

Describes how to rapidly enter and modify instructions and parameters.

B4. How to Use Customization Effectively

Describes various customization functions.

B5. How to Use Component Macros Effectively

Describes effective use of component macros.

B6. Collaborative Program Development

Describes how to use WideField3 in collaborative system development.

B7. Advanced Editing of Component Blocks

Describes reuse of created blocks and advanced editing of component blocks.

PART C Troubleshooting Manual

C1. Developing Programs for a Multi-CPU System

Describes precautions when configuring I/O settings for a multi-CPU system.

C2. Recovering from Communications Errors

Describes how to recover from communications errors between the personal computer and FA-M3.

C3. Troubleshooting

Describes common errors when using WideField3 and how to perform troubleshooting.

C4. E-mail Technical Support

Describes how to send an E-mail to Yokogawa's technical support team.

■ How to Read This Manual

Be sure to read the “Introduction” as well as “How to read this manual” before using WideField3.

Part A of the manual describes how to set up the application, as well as gives an overview of the software.

Part B describes advanced and efficient use of the application.

Part C describes how to troubleshoot the application.

This manual is structured so that each chapter or section can be read independently for details on the basic specifications and individual functions of the application.

We have tried to make the user interface, operations and editing functions of the WideField3 application as similar as possible to other generally available Windows software. This manual does not contain information on general Windows editing operations, which are not specific to WideField3.

■ Notation

● Notation for Windows Screens and Operation

- Items in initial caps denote symbols, names and window names.
Example: WideField3, Program Monitor dialog
- Bracketed items denote menu bar items, dialog box fields, commands, and buttons.
Example: Select [File]–[New] from the menu bar.
Click [OK].

● Representations in WideField3 Figures and Screens

Screen examples given in this manual assumes that the application is running under Windows XP operating system environment. Under Windows 2000, Windows Vista and Windows 7 operating systems, you may observe slight differences such as differences in icon names or application names.

Some figures in this manual may, for reasons of convenience, be emphasized or simplified, or parts of it may be omitted. Some screen images in this manual may differ from actual screens due to differences in the operating machine environment.

● Notation for Procedures

Procedure pages are laid out with the procedure steps on the left and the corresponding screen images on the right.

Procedure :User actions are displayed in bold.

Description of the results of user actions is provided after the \Rightarrow mark.

Screens :The procedure step(s) corresponding to a screen image is indicated by step numbers below the screen.

● Function Keys and Shortcut Keys

In addition to using a mouse, you can operate WideField3 menus using function keys and shortcut keys.

In general, this manual describes operations using a mouse, and does not include equivalent operations using function keys or short cut keys.

■ Other User's Manuals

You should read the following user's manuals.

- FA-M3 Programming Tool WideField3 Read Me First (IM 34M06Q16-11E)
- FA-M3 Programming Tool WideField3 Offline (IM 34M06Q16-02E)
- FA-M3 Programming Tool WideField3 Online (IM 34M06Q16-03E)
- FA-M3 Programming Tool WideField3 Script (IM 34M06Q16-04E)

For individual sequence CPU modules, please refer to the relevant user's manuals.

● F3SP71, 76

- Sequence CPU Instruction Manual - Functions (for F3SP71-4N/4S, F3SP76-7N/7S) (IM 34M06P15-01E)
- Sequence CPU – Network Functions (for F3SP71-4N/4S, F3SP76-7N/7S) (IM 34M06P15-02E)
- Sequence CPU Instruction Manual – Instructions (IM 34M06P12-03E)

● F3SP66, 67

- Sequence CPU – Functions (for F3SP66-4S, F3SP67-6S) (IM 34M06P14-01E)
- Sequence CPU – Network Functions (for F3SP66-4S, F3SP67-6S) (IM 34M06P14-02E)
- Sequence CPU Instruction Manual – Instructions (IM 34M06P12-03E)

● F3SP22, 28, 38, 53, 58, 59

- Sequence CPU Instruction Manual – Functions (for F3SP22-0S, F3SP28-3N/3S, F3SP38-6N/6S, F3SP53-4H/4S, F3SP58-6H/6S, F3SP59-7S) (IM 34M06P13-01E)
- Sequence CPU Instruction Manual – Instructions (IM 34M06P12-03E)

● F3SP05, 08, 21, 25, 35

- Sequence CPU – Functions (for F3SP21, F3SP25 and F3SP35) (IM 34M06P12-02E)
- Sequence CPU Instruction Manual – Instructions (IM 34M06P12-03E)

Refer to the following manuals as required.

- **Specifications and Layout*¹ of the FA-M3, Mounting and Wiring, Testing, Maintenance and Inspection, and System-wide Restrictions for Mounting Modules**

*¹: See specific manuals for products other than the power module, base module, I/O module, cables, and terminal block units.

- Hardware Manual (IM 34M06C11-01E)

- **Fiber-optic FA-Bus Functions**

- Fiber-optic FA-bus Module and Fiber-optic FA-bus Type 2 Module, FA-bus Type 2 Module (IM 34M06H45-01E)

- **FA Link Functions**

- FA Link H Module, Fiber-optic FA Link H Module (IM 34M06H43-01E)

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FA-M3**Programming Tool****WideField3 Introduction and Troubleshooting**

IM 34M06Q16-01E 3rd Edition

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FA-M3

**Programming Tool WideField3
Introduction and Troubleshooting**

PART-A Startup Manual

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The startup manual describes basic specifications of WideField3 as well as setup and startup procedures.

A1. Overview

This chapter gives an overview of the FA-M3 programming tool WideField3, and describes its difference from its predecessor, the WideField2 (SF620) software.

A1.1 Overview of WideField3

The WideField3 software provides a Windows environment for developing programs which operate with FA-M3. Using this tool, developers are able to carry out all aspects of development, from creating programs to debugging and maintenance. WideField3 allows online connection to be made to FA-M3 using USB (RS-232C for some CPU types), Ethernet or FL-net.

The WideField3 software supports a rich set of functions that facilitates efficient program development such as multi-window editing, monitor functions and integration with other tools.

The WideField3 software not only allows you to divide a large program into smaller modules for collaborative development, but also supports object ladder program development with high data and program independence. Thanks to these features, you can now create highly reusable programs.

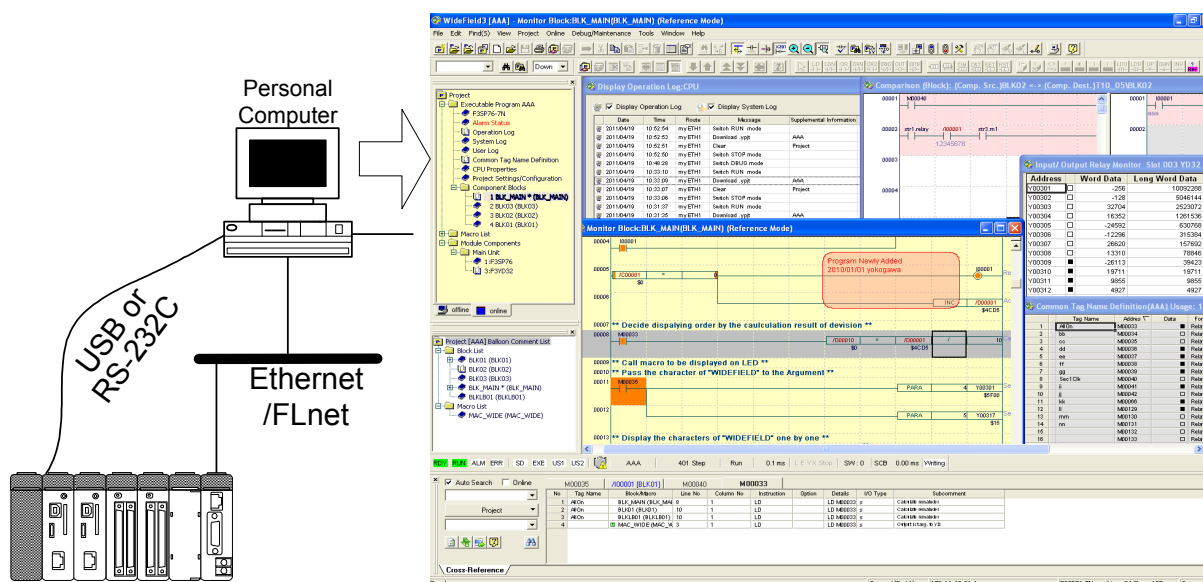


Figure A1.1 WideField3 Operating Diagram

A01_01.VSD

A1.2 New and Updated Functions in WideField3

This section describes the differences in functionalities between the following WideField2 and WideField3 versions:

- Differences between Widefield2 R5 and WideField3 R1

A1.2.1 Differences between WideField2 R5 and WideField3 R1

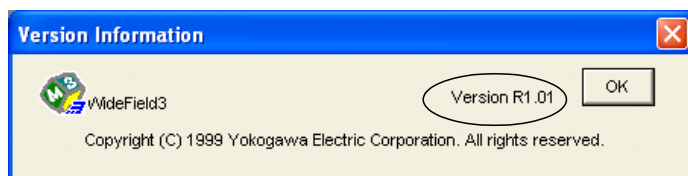
This subsection describes functional differences between Widefield2 R5 and WideField3 R1.

SEE ALSO

For details of individual differences, see sections given in the “SEE ALSO” column in Table A1.4.

TIP

To confirm the software version in WideField3 R1, select [Help]–[Version Information] from the menu bar. A dialog box as shown in Figure A1.2 appears. Verify that the software version is displayed as “R1.xx”.



A01_02_R101.VSD

Figure A1.2 WideField3 R1 Version Information

■ List of Supported CPU Types

WideField3 R1 supports the following CPU types:

Table A1.1 List of Supported CPU Types in WideField3 R1

CPU Type	Support
F3SP71-4S/F3SP76-7S	
F3SP71-4N/F3SP76-7N	Yes
F3SP66-4S/F3SP67-6S	Yes
F3SP59-7S	Yes
F3SP58-6S	Yes
F3SP53-4S	Yes
F3SP38-6S	Yes
F3SP28-3S	Yes
F3SP22-0S	Yes
F3SP28-3N/F3SP38-6N	Yes
F3SP53-4H/F3SP58-6H	Yes
F3FP36-3N	Yes
F3SP25-2N/F3SP35-5N	Yes
F3SP21-0N	Yes
F3SP05-0P	Yes
F3SP08-0P	Yes

TIP

There is correspondence between CPU types as shown below. For description of F3SPV□-□□, check the following list and refer to the explanation of the corresponding CPU.

- F3SPV3-4H: Equivalent to F3SP53-4H
- F3SPV8-6H: Equivalent to F3SP58-6H
- F3SPV3-4S: Equivalent to F3SP53-4S
- F3SPV8-6S: Equivalent to F3SP58-6S

■ List of Supported Device Types

WideField3 R1 supports the following device types:

SEE ALSO

For details of devices, see "Sequence CPU – Functions."

Table A1.2 List of Supported Device Types in WideField3 R1

Device Symbol	Device Name	Support
X	Input relay	Yes
Y	Output relay	Yes
I	Internal relay	Yes
E	Shared relay or extended shared relay	Yes
L	Link relay	Yes
M	Special relay	Yes
T	Timer	Yes
C	Counter	Yes
D	Data register	Yes
B	File register	Yes
F	Cache register	Yes
W	Link register	Yes
Z	Special register	Yes
R	Shared register or extended shared register	Yes
V	Index register	Yes
P	Pointer register	Yes
H	Macro relay	Yes
A	Macro register	Yes
U	Macro index register	Yes
Q	Structure pointer register	Yes

■ List of Supported Communication Media

WideField3 R1 supports the following communication media:

Table A1.3 List of Supported Communication Media in WideField3 R1

Communication Media	Support	Note
USB	Yes	- Not available for Windows Me/98 operating systems - USB3.0 is not supported.
Ethernet	Yes	
RS-232C	Yes	
FL-net	Yes	Available for F3LX02-1N Rev 01:00 or later

■ New and Updated Functions

Table A1.4 New and Updated Functions in WideField3 R1

Category	Function Details	Summary	SEE ALSO
New CPU types	New CPU types	Supports F3SP22-0S/71-4N/76-7N, with corresponding new functions and ladder instructions added.	—
Overall	Resume references	When a file selection dialog box opens, the path from the previous file selection operation is shown.	—
	Resume screens	When a screen is opened, the state in which the screen was last closed is restored.	—
	[Close All Except Frontmost Window] menu	Added the [Close All Except Frontmost Window] menu.	A3.2 Function List
	Opening a file saved with a different name	After a file or project is saved with the [Save As] menu, the saved file or project can be opened for further editing.	D2.2 Creating a Project D4.3 Saving Block and Macro Files E2.5 Group Templates F4.2 Defining Structure Types H5.2 CPU Properties Function K3.2 System Log K3.3 User Log
	Hiding a confirmation dialog box	Added a setting to hide a confirmation dialog box for subsequent operations.	B4.1 Displaying and Hiding Confirmation Messages
Environment setup	Import/Export/Restore defaults	Allows importing and exporting of environment setups. Allows all the parameters of the environment setup to be reset to default values.	D1.2 Environment Setup
	Communication setup	Allows selection of the communication port number used to connect with the CPU.	D1.2 Environment Setup H12 FA-M3 Communication Server

Category	Function Details	Summary	SEE ALSO
Compare	Comparison by the components definition registration order	Comparison is made not by file name but according to the order in which files are registered in the components definition.	E7.2 Compare Project
	Split display	Allows the program edit screen to be split vertically or horizontally.	E7.3 Compare Window
	Editing blocks by referring and comparing	Allows two blocks to be compared and separately edited in a single program edit screen.	E7.3 Compare Window
Editing programs	Automatic IME control	In the Instruction Parameter Setup dialog box of the program edit screen, IME is automatically switched from Japanese input mode to Alphanumeric mode.	—
	Balloon comment	Allows comments to be added in balloons within screens.	E1.2.39 Creating and Deleting Balloon Comments
	Adjustment of line height of circuit comments	Allows adjustment of the height of circuit comment lines.	D1.2.4 Circuit Display/Input Setup
	Pasting content in a selected paste format	When pasting a circuit, its tag name definition can also be pasted.	E1.2.31 Copying and Moving a Tag Name Definition
	Collective setup of display mode	Allows collective setup of display mode.	E1.5.4 Setting Multiple Display Modes J2.3.9 Setting Multiple Display Modes
	Circuit comment input dialog box	Allows consecutive editing of multiple lines of circuit comments.	E1.2.35 Entering and Deleting Circuit Comments
	Rapid entry of parameter changes	When entering an instruction in the program edit screen, entering a number changes the device address, and entering an alphabet changes the device type and address.	B3 How to Rapidly Enter and Modify Instructions and Parameters
	Drag and drop	Allows data to be dragged and dropped from the following screens to the program edit screen: - Program monitor screen - Tag Name Definition Monitor screen - Tag Name Definition edit screen - Registered Device Monitor screen - Device monitor screen	E1.2 Editing Ladder Programs
	Read and write mode	Allows block and macro files from other projects to be opened in a specified mode.	D4.2 Opening Block and Macro Files

Category	Function Details	Summary	SEE ALSO
Find, replace and jump	Find	Integrated separate dialog boxes for searching blocks and an entire project into a single search dialog box.	E4.1.1 Finding Devices/Comments
	Find Instructions	Integrated separate dialog boxes for searching blocks and an entire project for instructions into a single instruction search dialog box.	E4.1.2 Finding Instruction
	Replace	Integrated separate dialog boxes for replacing in blocks and an entire project into a single replace dialog box.	E4.2 Replace
	Jump	Added jump destinations such as next and previous inputs/outputs.	E4.1 Find
Tag name definitions	Using multiple I/O comments	Up to three I/O comments can be specified to a single tag name definition.	E2.8 Multiple I/O Comments
	Common tag name definition template	Allows selection of whether to load a common tag name definition template when creating a new project.	D2.2.1 Creating a New Project
	Drag and drop	Allows data to be dragged and dropped from the following screens to the Tag Name Definition screen: - Program edit screen - Program monitor screen - Tag Name Definition Monitor screen - Registered Device Monitor screen - Device monitor screen	E2.2.4 Copying, Cutting, Pasting, Moving and Deleting
Project	Project setup/configuration	Integrated Define Components, Configuration, and CPU Properties of WideField2 R5 into Project Settings/Configuration.	D3.1 Building a Project H5 CPU Properties
Print	Print setup	From the print setup dialog box, items to be printed and the print layout can be specified. Print order modification and print page preview are also possible.	E8 Printing
Device manager	Import	Allows device data in csv format to be imported.	H8 Device Manager
FA-M3 Defender	User account setup	Sets up information of users who log in to the CPU.	H11 FA-M3 Defender (User Authentication and Operation Protection)
	Operation protection	Sets up protection against operations on the CPU.	H11 FA-M3 Defender (User Authentication and Operation Protection)
Cross reference	Cross reference	The cross reference window shows other locations where the device currently selected in the program is used. Also allows jumping to the location in another program where the device is used.	E6 Cross Reference
Device list	Device list	Lists device usage status for each device type in a project.	E5 Device List

Category	Function Details	Summary	SEE ALSO
Sampling trace	Setup wizard	Added a wizard for setting up the sampling trace.	K4.3 Sampling Trace Setup
	Number of items to be traced	Increased the number of traceable items as follows: - Bit device: from 16 to 64 - Register device: from 4 to 128	K4 Sampling Trace Tool
	Number of trace operations	Allows up to 174,762 operations based on the number of devices to be traced.	K4 Sampling Trace Tool
	Start and end trigger conditions	Added conditions specifiable to start and end triggers.	K4.3.5 Setup of Trigger Conditions
	Trace result window	Allows operations such as selection and filtering of displayed data and overlapping with past data.	K4.4 Using Sampling Trace Results
Registered device monitor	Drag and drop	Allows data to be dragged and dropped from the following screens to the Registered Device Monitor screen for device registration: - Program edit screen - Program monitor screen - Tag Name Definition screen - Tag Name Definition Monitor screen - Device monitor screen	J5 Registered Device Monitor
	Copy and paste	Allows moving and copying of registered devices.	J5 Registered Device Monitor
	Register	Items from the following screens can be selected and set in the registered device monitor: - Program edit screen - Program monitor screen - Tag Name Definition screen - Tag Name Definition Monitor screen - Device monitor screen	J5 Registered Device Monitor
	Sort	Allows sorting of monitored devices by switching the order of the line positions of the devices.	J5.1 Registered Device Monitor Window
	I/O comment display	Displays I/O comments of monitored items.	J5.1 Registered Device Monitor Window
Device monitor	Advanced function module relay monitor	Allows display of I/O comments assigned to addresses.	J3.6.1 Advanced Function Module Relay Monitor Window
	Advanced function module monitor	Allows selection of module types when the monitor starts up.	J3.6 Advanced Function Module Monitor
	Drag and drop	Allows device monitor data to be dragged and dropped to the following screens: - Program edit screen - Program monitor screen - Tag Name Definition screen - Tag Name Definition Monitor screen - Registered Device Monitor screen	J3 Device Monitor
Tag name definition monitor	Drag and drop	Allows tag name definition monitor data to be dragged and dropped to the following screens: - Program edit screen - Program monitor screen - Tag Name Definition screen - Registered Device Monitor screen - Device monitor screen	J4 Tag Name Definition Monitor

Category	Function Details	Summary	SEE ALSO
Program monitor	Drag and drop	Allows program monitor data to be dragged and dropped to the following screens: - Program edit screen - Tag Name Definition Monitor screen - Tag Name Definition screen - Registered Device Monitor screen - Device monitor screen	J2 Program Monitor
	Balloon monitor	Allows current values of devices to be displayed in program monitor balloons.	J2.6 Balloon Monitor
	Circuit comment out	Allows programs to be executed by temporarily activating or disabling selected instructions or circuits.	K2.3 Commenting Out Circuits
Online	Online editing	Allows pasting of circuits copied or cut from other blocks.	K2 Online Edit
	Project window	Added alarm statuses, various logs, CPU properties and module configuration to the project tree.	—
Operation log	Operation log	Maintains a record of operations performed on the CPU by users.	K3.4 Operation Log

A1.2.2 Differences between WideField3 R1 and WideField3 R2

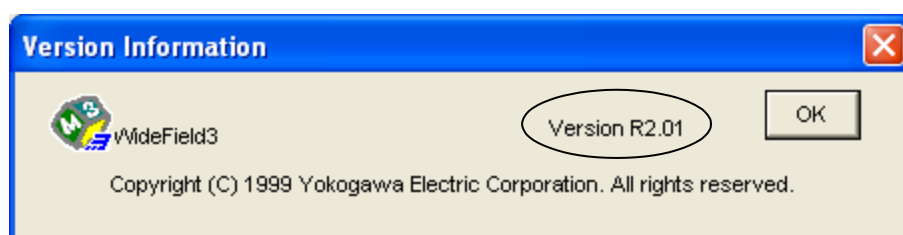
This subsection describes functional differences between Widefield3 R1 and WideField3 R2.

SEE ALSO

For details of individual differences, see sections given in the “SEE ALSO” column in Table A1.6.

TIP

To confirm the software version in WideField3 R2, select [Help]–[Version Information] from the menu bar. A dialog box as shown in Figure A1.3 appears. Verify that the software version is displayed as “R2.xx”.



A01_02_R201.VSD

Figure A1.3 WideField3 R2 Version Information

■ List of Supported CPU Types

F3SP71-4S and F3SP76-7S have been added to the CPU types previously supported by WideField3 R2.

Table A1.5 List of Supported CPU Types in WideField3 R2

CPU Type	Support
F3SP71-4S/F3SP76-7S	Yes
F3SP71-4N/F3SP76-7N	Yes
F3SP66-4S/F3SP67-6S	Yes
F3SP59-7S	Yes
F3SP58-6S	Yes
F3SP53-4S	Yes
F3SP38-6S	Yes
F3SP28-3S	Yes
F3SP22-0S	Yes
F3SP28-3N/F3SP38-6N	Yes
F3SP53-4H/F3SP58-6H	Yes
F3FP36-3N	Yes
F3SP25-2N/F3SP35-5N	Yes
F3SP21-0N	Yes
F3SP05-0P	Yes
F3SP08-0P	Yes

TIP

There is correspondence between CPU types as shown below. For description of F3SPV□-□□, check the following list and refer to the explanation of the corresponding CPU.

- F3SPV3-4H: Equivalent to F3SP53-4H
- F3SPV8-6H: Equivalent to F3SP58-6H
- F3SPV3-4S: Equivalent to F3SP53-4S
- F3SPV8-6S: Equivalent to F3SP58-6S
- F3SPV9-7S: Device capacities and instructions are equivalent to F3SP76-7S

■ New and Updated Functions

Table A1.6 New and Updated Functions in WideField3 R2

Category	Function Details	Summary	SEE ALSO	Version
New CPU types	New CPU types	Supports F3SP71-4S/76-7S, with corresponding new functions and ladder instructions added.		R2.01
Editing programs	Instruction range display	Displays the range of instructions used in pairs, such as IL-ILC and FOR-NEXT.	D1.2.4 Circuit Display/Input Setup E1.5.3 Display Instruction Range E1.5.4 Setting Multiple Display Modes	R2.01
Find	Find circuit comment-out	Circuit comment-out locations can be searched for.	E4.1.10 Find Circuit Comment-out	R2.01
Online editing	Monitoring during online editing	Program monitoring and debugging functions can be used during online editing.	D1.2.4 Circuit Display/Input Setup D1.2.5 Program Monitor Setup K2.5 Monitoring During Online Editing	R2.01
Script		Programming can be done using languages such as BASIC, in addition to the ladder language.	Throughout PART G	R2.01
Operating environment	64-bit OS support	Windows Vista (64-bit version) and Windows 7 (64-bit version) are now supported.		R2.03
Balloon	Balloon	<ul style="list-style-type: none"> - Balloons can be stored in the CPU. - All balloons can be collectively shown and hidden. - Balloons can be copied. - The display setup can be saved. 	B1.1.3 Reference for Balloon Comments E1.2.39 Creating and Deleting Balloon Comments H9.1.3 Storing Balloon Comments H9.3 Online Operation of Balloon Comments	R2.03
Find	Find devices	Only the displayed devices can be searched.	E4.1.1 Finding Devices/Comments	R2.03
Circuit comment-out	All cancel	All the circuit commenting-out can be canceled.	K2.3.4 Canceling All Circuit Commenting-Out E4.1.10 Find Circuit Comment-out	R2.03
Scrip	Editing	<ul style="list-style-type: none"> - Display of constant name candidates is available. - Constant names can be registered. - The ++ and -- operators are supported. - The SELECT statement is supported. - The maximum nests of the IF/SELECT and FOR statements are increased from 2 to 8. 	G3.2.1 Arithmetic Operators G3.3 Control Statements G11. Program Control Functions G2.3.4 Display of Input Candidates G2.3.5 Registering and Editing of Constant Definition	R2.03

Category	Function Details	Summary	SEE ALSO	Version
Script	Monitoring	The script monitor can be hidden.	G5.4 Monitoring in the Script Pane	R2.03
Online editing	Cancel operation	If any conversion error occurs during online editing, you can exit the online editing and restores the state before the editing by discarding the entire changes made. The program on the CPU retains the state before editing.	K2. Online Edit	R2.03
New CPU types	New CPU types	Supports F3SPV9-7S, with corresponding new functions.		R2.04
Editing programs	Conversion	If a circuit has multiple branches in the same line to which the same logic is specified, a conversion error occurs.	E1.1.2 Circuits with Conversion Errors	R2.04
Editing programs	Vertical line input	Inserting and deleting vertical lines using the function keys are improved.	E1.2.23 Inserting Connection Lines	R2.04
Editing programs	Continuation line	Return numbers in continuation lines are shown.	E1.2.24 Entering Continuation Circuit	R2.04
Editing programs	Line range selection	Line ranges can be selected by specifying start and end lines, without dragging a mouse.	E1.2.27 Selecting Circuits	R2.04
Editing programs	Device list	The device list screen can be displayed in the output window. Also, device usage in the program edit screen can be immediately viewed.	E5.1 Fundamentals of Device List	R2.04
Editing programs	Displaying of I/O comment	If a space character is included in an I/O comment and there should be a new line in the middle of the next character string, the new line occurs at the space character and the character string is displayed.	E1.2.38 Entering and Deleting I/O Comments	R2.04
Project	Saving	When a project is closed, project settings, blocks, and other configurations can be saved at the same time.	D2.2.4 Closing a Project	R2.04
Print	Cross reference	Cross reference printing can be selected when a device list is printed.	E8.4.4 Device List Settings E8.5.5 Print Layout for Device List	R2.04
Print	Print screen	The print range of the program output settings is valid, even for print screen.	E8.3.4 Configuring Program Output Settings	R2.04
Download	Tag name definitions	Tag name definitions can be downloaded during RUN. (Valid for F3SP71-4S/SP76-7S R3 or later)	H2.3 Downloading Tag Name Definitions during RUN	R2.04
Upload	Tag name definitions	Items to be transferred during a project upload can be selected. SP71/76 supports uploading of tag name definitions only.	H3.1.2 Procedure for Uploading a Project H3.2 Uploading Blocks and Macros H3.3 Uploading Tag Name Definitions	R2.04
Program monitor	Watch monitor	Devices are automatically displayed in accordance with the visible area of the program monitor, allowing such devices to be monitored. Also, the display format and data length can be specified for each device.	J6 Watch Monitor	R2.04
Online editing	Circuit comment/subcomment	Circuit comments and subcomments can be added during online editing. (Valid for F3SP71-4S/SP76-7S R3 or later)	K2.4.3 Precautions for Online Editing	R2.04

Category	Function Details	Summary	SEE ALSO	Version
Online editing	Forcible canceling of the CPU online editing mode	If you are writing data to the CPU using the online editing function but the operation does not finish successfully due to a communication error, you can recover FA-M3 by forcibly canceling the CPU online editing mode, without having to turning FA-M3 off and then on again. (Valid for F3SP71-4S/SP76-7S R3 or later)	J1.10 Forcibly Canceling Online Editing Mode	R2.04
Properties	Initial values	For a new project or new block/macro, circuit comments/subcomments, common tag name definitions, and block tag name definitions are stored to the CPU by default.	D3.1.16 Component Block Setup	R2.04



CAUTION

- Once a project is opened in WideField3 R2 and is converted to WideField3R2 format, the project can no longer be used in WideField3 R1. A project created in WideField3 R2 must be converted to a lower format so that it can be used in WideField3 R1 if necessary.
- For WideField3 versions earlier than R2.03, the script monitoring is not possible for programs using script syntax that contains a SELECT statement or any other new features. Also, trying to perform online editing causes a compile error.
- When downloading a program created with WideField3 R1.01 or earlier (including R1.01) to the CPU, you cannot download only balloons to the CPU.

TIP

To identify the type and Rev number of the CPU connected from WideField3, check the information displayed on Status Bar.

SEE ALSO

For details on Status Bar, see Section A3.1, "Screen Layout" (Introduction and Troubleshooting).

A1.3 WideField3 Function Limitations

This section describes some limitations of WideField3.

These limitations refer to specific functions accessible from the WideField3 user interface, including incomplete functions intended for future use and known operational instability under specific conditions.

Table A1.7 WideField3 Function Limitations

Category	Function Details	Limitations
Windows 2000 Windows XP Windows Vista	Security setting for directories	To allow restricted users to use WideField3, you must set the access permissions on directories to grant restricted users access to all directories used by WideField3 such as the installation directory and program directory.
USB	Communications	Depending on the chipset used by the PC running the WideField3 software, reliable USB connection is not always guaranteed. A USB connection may be unreliable or even disconnected due to noise. If this happens, remove and re-attach the USB cable to the PC.
FL-net	Communications	Communications to the CPU may fail during FL-net (OPCN-2) setup when the WideField3 window is minimized.
FA Link	Communications	Communications to the CPU may fail during FA link setup when the WideField3 window is minimized.
Sampling trace	Communications	Communications to the CPU may fail when the WideField3 window is minimized.
Device manager	Communications	Communications to the CPU may fail when the WideField3 window is minimized.

A1.4 Migrating from WideField2

This section highlights differences between the use of WideField2 and WideField3 for the convenience of users migrating from WideField2.

■ User File Compatibility

In WideField3, blocks or macros created in WideField2 can be opened in read or write mode. In write mode, you can also edit blocks and macros.



CAUTION

- A project that has been opened in WideField3 and automatically converted to WideField3 format can no longer be used directly in WideField2 again.
- To use a projected created in WideField3 in the WideField2 software, you must first convert it to a lower version format.
- A project saved by WideField3 in card load format cannot be opened in WideField2. To save a WideField3 project in WideField2 compatible card load format, downgrade and save the project using WideField3 in WideField2 format, and then open the project in WideField2 and save it in card load format.

■ Automatic Conversion of Projects

Project configuration files are added when a project created in WideField2 is opened in WideField3. The following table shows the files to be added.

Table A1.8 List of Automatic Project Conversions

Item to be Added	File Name
Long and shot names file	LONGNAME.TXT
Screen resume file	Resumeinfo.USR

TIP

The long and shot names file saves the corresponding relationship between project, block and macro names recognized by the personal computer and those stored in the CPU.

A1.5 Migrating from WideField

This section highlights differences between the use of WideField and WideField3 for the convenience of users migrating from WideField.

■ User File Compatibility

When you open a project, block or tag name definition created in WideField using WideField3, WideField3 automatically converts the file into WideField3 format to allow editing.



CAUTION

A project that has been opened in WideField3 and automatically converted to WideField3 format can no longer be used directly in WideField again.

To use a project created in WideField3 in the WideField software, you must first convert it to a lower version format.

■ Automatic Conversion of Tag Name Strings

All period (".") characters used in tag names in a project created in WideField are automatically converted to underscore ("_") characters when the project is opened in WideField3. All the mappings between tag names and addresses are correct after conversion. Note that all programs are modified during conversion.

Table A1.9 List of Automatic Tag Name Conversions

Item	Before Conversion	After Conversion by WideField3
Tag name strings	" . "	" _ "

■ Automatic Conversion of Projects

Formats of all user files are automatically converted when a project created in WideField is opened in WideField3. The following table shows the setup information after conversion.

Table A1.10 List of Automatic Project Conversions

Item	Before Conversion	After Conversion by WideField3
Reference tag name definition	—	Block tag name definition
Store tag name definition	—	No
Store circuit comments and I/O comments	—	No
Maximum common tag name definitions	5120	Preset value +1

Project configuration files are added when a project created in WideField is opened in WideField3. The following table shows the files to be added.

Table A1.11 List of Files to be Added

Item to be Added	File Name
Long and shot names file	LONGNAME.TXT
Screen resume file	Resumeinfo.USR

■ Tag Name Oriented Development

The WideField3 program development environment is designed as a tag name oriented development environment.

Entered data (tag names or addresses) is stored in block files which are displayed as programs with the entered data unchanged. However, addresses entered during online editing or uploading which already have tag names assigned are converted to tag names before saving.

Consistent to its tag-name oriented development design philosophy, the replace operation is not allowed in address display mode in WideField3.

■ Using Projects Created in WideField3 in WideField or WideField2

Projects created in WideField3 and WideField projects which have been opened in WideField3 cannot be used directly in WideField or WideField2. To use a project which has been opened in WideField3 in WideField or WideField2, perform conversion by selecting [File]–[Save Project in Other Formats]–[Downgrade and Save] from the WideField3 menu.



CAUTION

If a project that is opened and then downloaded to a sequence CPU using WideField3 is uploaded using WideField or WideField2, the project may sometimes fail to be generated properly. If this happens, perform [File]–[Save Project in Other Formats]–[Downgrade and Save] in WideField3 for the project saved on the personal computer before using it in WideField or WideField2.

A2. Operating Environment

This section describes the operating environment of WideField3.

Table A2.1 Operating Environment

Item	Specifications
PC	PC/AT compatible
Operating System ^{*1}	Microsoft Windows 7 (32bit/64bit) Microsoft Windows Vista (32bit/64bit) Microsoft Windows XP Microsoft Windows 2000
Required Software	Internet Explorer 5.01 or later, .NET Framework2.0
Software Media	CD-ROM
CPU ^{*2}	Pentium 133MHz or better, and can run an operating system listed above
Memory ^{*3}	32MB or more, and can run an operating system listed above
Hard Disk Capacity	400MB or more available
Display	800 x 600 dots or more (1024×768 recommended)
Communications ^{*4*5}	USB, RS-232C, Ethernet, FL-net
Printer	Any printer compatible with the operating systems listed above and supports A4 printing
Compatible CPU Modules	F3SP05-0P, F3SP08-0P, F3SP08-SP, F3SP21-0N, F3SP22-0S, F3SP25-2N, F3SP35-5N, F3SP28-3N, F3SP38-6N, F3SP53-4H, F3SP58-6H, F3SP28-3S, F3SP38-6S, F3SP53-4S, F3SP58-6S, F3SP59-7S, F3SPV3-4H, F3SPV8-6H, F3FP36-3N, F3SPV3-4S, F3SPV8-6S, F3SP66-4S, F3SP67-6S, F3SP71-4N, F3SP76-7N, F3SP71-4S, F3SP76-7S, F3SPV9-7S

*1: Only the 32 bit (x86) versions of Windows XP can be used. The 64 bit (x64) versions cannot be used.

*2: For FL-net communications, CPU speed must be Pentium III 750 MHz or higher.

*3: For FL-net communications, memory must be 128MB or more.

*4: For FL-net communications, network card must support TCP/IP protocol.

Usable communications conditions vary with CPU type.

*5: Depending on the chipset used by the PC running the WideField3 software, reliable USB connection is not always guaranteed.



CAUTION

Set the display font size to a small font size.

The text on the screen may be displayed incorrectly if a large font size is chosen.

Pay careful attention to the Windows folder security before installing and running the WideField3 software.



CAUTION

Some operating environments may not display the font you choose on WideField3.

Start it by choosing the font which can be displayed.



CAUTION

Do not run the WideField3 software and the WideField (SF610) or WideField2 (SF620) software concurrently.

■ Connecting to FA-M3

FA-M3 sequence CPU module and WideField3 (running on PC) can be connected via RS-232C, USB, Ethernet, or FL-net.

● Connecting Using USB

Prepare a standard USB cable, which is available commercially.

- Connecting to the PC
Connect the cable to the USB port of the PC.
- Connecting to the sequence CPU module
Connect the cable to the USB port located on the front panel of the sequence CPU module. Inserting the cable when the RDY LED is lit initiates installation of the driver software. Follow the displayed messages to install the driver software.

TIP

- Use a USB1.1/2.0-compliant generic USB cable (up to 5m long).
- Depending on the chipset used by the PC running the WideField3 software, reliable USB connection is not always guaranteed.
- A USB connection may become unreliable or even disconnected due to noise. If this happens, remove and re-attach the USB cable to the PC.

● Connecting Using RS-232C

Prepare a proprietary FA-M3 CPU cable as shown in Table A2.2.

Select a cable with an appropriate serial port connector for the PC to be used.

Table A2.2 Cables for CPU Port

Type	Basic Specifications Code	Specifications
KM11	-2T (3m long)	DOS/V compatible, D-sub 9 pin
	-3T (5m long)	
	-4T (10m long)	
KM13	-1N (3m long)	DOS/V compatible USB1.1-compliant cable for use with USB port
	-1S (3m long)	

- Connecting to the PC
Connect the cable to the serial port of the PC. The serial port is located at the back for most PCs but located in front for some PCs.
- Connecting to the sequence CPU module
Connect the cable to the PROGRAMMER or SIO port of the sequence CPU module. Remove the protective cover from the sequence CPU module to be accessed or configured from WideField3, and connect the cable securely.

SEE ALSO

When using a USB cable for connection, you may need to configure the serial port on the PC.
For more information on the USB-Serial converter cable, see "USB-Serial Converter" (IM34M06C91-01E).

● Connecting Using Ethernet via Ethernet Interface Module

Connect the (10BASE5/10BASE-T/100BASE-TX) connector on the PC to the (10BASE5/10BASE-T/100BASE-TX) connector on the Ethernet interface module using a (10BASE5/10BASE-T/100BASE-TX) cable.

SEE ALSO

For details on Ethernet connection, see “Ethernet Interface Module” (IM 34M06H24-01E, IM 34M06H24-04E).

● Connecting Using Ethernet via Connector on Front Panel of CPU Module

Connect the (10BASE-T/100BASE-TX) connector on the PC to the (10BASE-T/100BASE-TX) connector on the front panel of the CPU module using a (10BASE-T/100BASE-TX) cable.

SEE ALSO

For details, see “Sequence CPU – Network Functions (for F3SP66-4S, F3SP67-6S)” (IM34M06P14-02E) and “Sequence CPU – Network Functions (for F3SP71-4N/4S, F3SP76-7N/7S)” (IM34M06P15-02E).

● Connecting Using FL-net

Connect the (10BASE5/10BASE-T) connector on the PC to the (10BASE5/10BASE-T) connector on the FL-net (OPCN-2) interface module using a (10BASE5/10BASE-T) cable.



CAUTION

To connect to FL-net, use FL-net (OPCN-2) Interface Module revision 01:00 or higher.

SEE ALSO

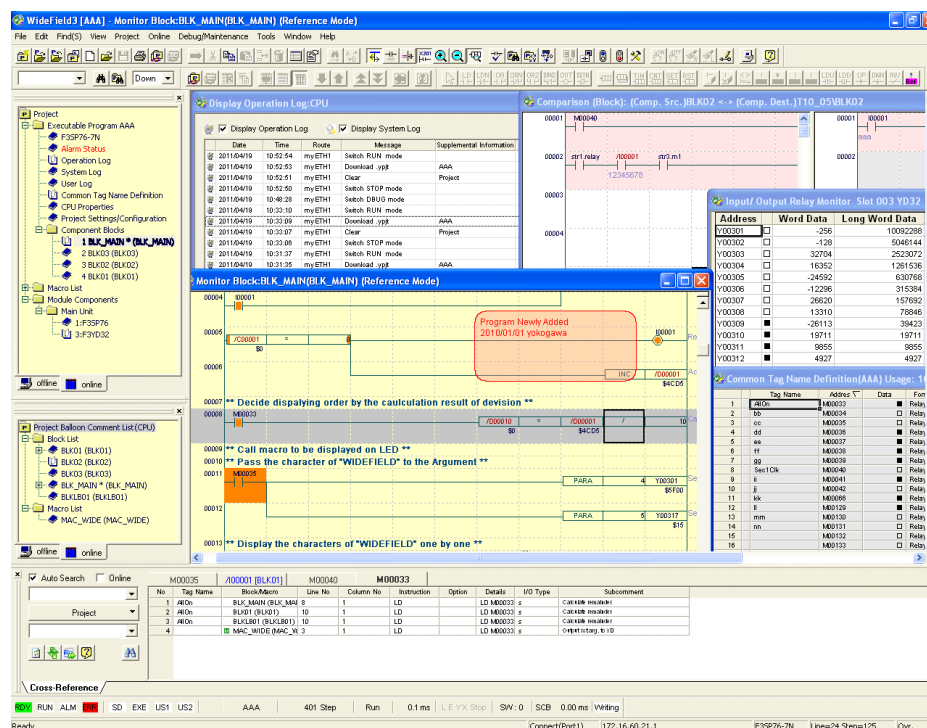
For details on FL-net connection, see “FL-net (OPCN-2) Interface Module” (IM34M06H32-02E)

A3. Basic Specifications

This chapter describes basic specifications, including screen layout, a list of all functions and operations of shortcut keys.

A3.1 Screen Layout

This section describes the layout of a WideField3 screen.



A03_01.VSD

Figure A3.1 Screen Layout

■ Title Bar

The title bar displays the file name of the open project, the name of the active window and the name of the block or macro file being edited.



A03_02.VSD

Figure A3.2 Layout of Title Bar

■ Menu Bar

The menu bar displays names of menus which are available in WideField3. You can select a menu from the menu bar. The menus displayed in the menu bar are dependant on the function that is currently active e.g. online or tag name definition function.



Figure A3.3 Layout of Menu Bar

A03_03.VSD

■ Toolbar

The toolbar displays icons of the most frequently used menus from the menu bar. You can select a menu from the menu bar or the toolbar.

To register a menu to the toolbar, use the Set up Environment dialog box.

To switch between showing and hiding the tool bar, use [View]–[Toolbar].



A03_04.VSD

Figure A3.4 Layout of Toolbar (The figure shows the single row of icons divided into two.)

■ Instruction Palette

The instruction palette displays icons for instructions and comments. You can create a circuit by selecting instructions from the instruction palette.

To switch between showing and hiding the instruction palette, use [View]–[Instruction Palette].



A03_05.VSD

Figure A3.5 Layout of Instruction Palette

■ Find Bar

The find bar displays an area for entering devices for search conditions and icons to specify for performing searches. You can also select devices for search conditions from past history.

To switch between showing and hiding the find bar, use [View]–[Find Bar].



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Figure A3.6 Layout of Find Bar

■ File Comparison Bar

The file comparison bar displays icons for operations related to the file comparison function. You can use these icons to compare files and specify operations in the comparison results display screen.

To switch between showing and hiding the file comparison bar, use [View]–[File Comparison Bar].



Figure A3.7 Layout of File Comparison Bar

■ Status Bar

The status bar displays various status information of the WideField3 software.

To switch between showing or hiding the status bar, use [View]–[Status Bar].

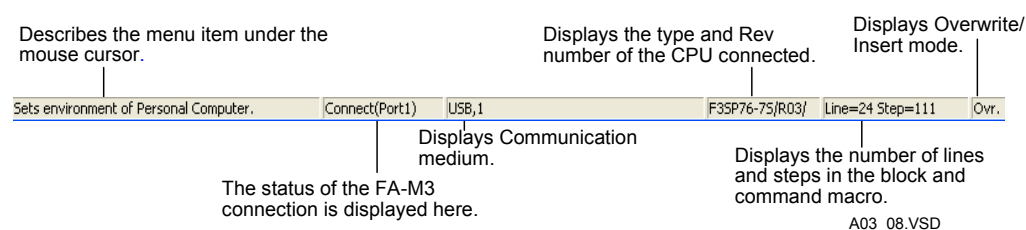


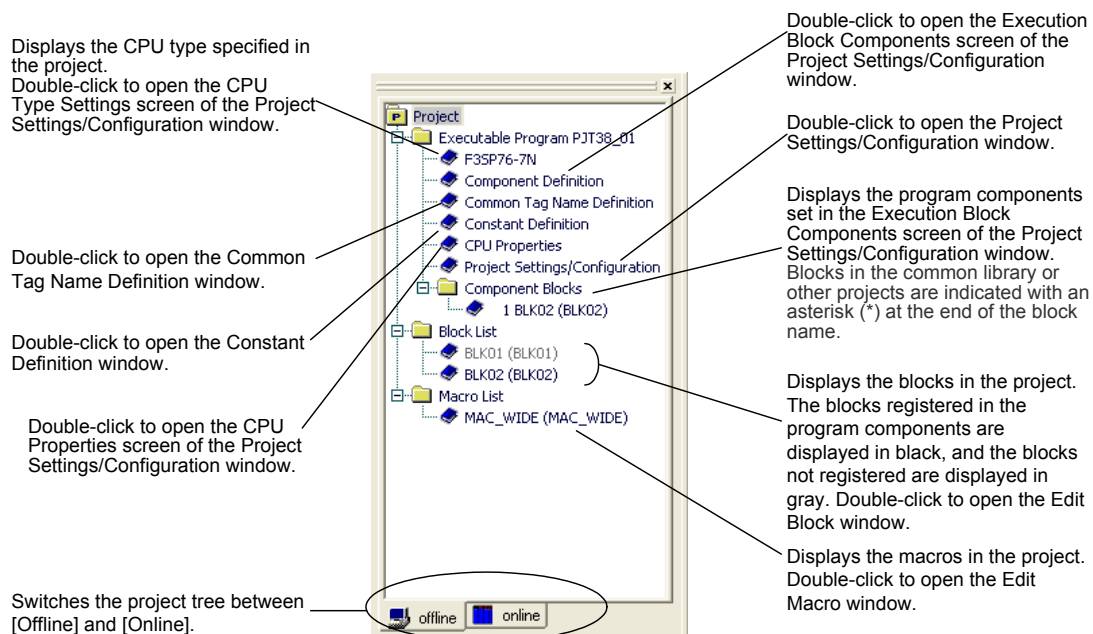
Figure A3.8 Layout of Status Bar

■ Project Window – Offline

In offline mode, the Project window displays the components of a project open in WideField3.

It displays the components of the executable program, and lists the blocks and instruction macros within the project.

To switch between showing or hiding the Project window, use [View]–[Project Window].



A03_10.VSD

Figure A3.10 Layout of Offline Project Window

You can call up the following functions directly from the offline project tree.

Table A3.1 Function List of Offline Project Tree

Tree Item	Operation	Function
Project	Select [Compare Project] from the popup menu.	Opens the Start Project Comparison dialog box.
	Select [Check Program] from the popup menu.	Performs a syntax check on the project.
	Select [Find in Project] from the popup menu.	Opens the Find in Project dialog box.
	Select [Find Instruction in Project] from the popup menu.	Opens the Find Instruction in Project dialog box.
	Select [Replace in Project] from the popup menu.	Opens the Project Replace dialog box.
	Select [Obsolete Device List] from the popup menu.	Opens the Obsolete Device List dialog box.
CPU Type Name	Double-click, or select [Open] from the popup menu.	Opens the CPU Type Settings screen of the Project Settings/Configuration window.
Component Definition	Double-click, or select [Open] from the popup menu.	Opens the Execution Block Components screen of the Project Settings/Configuration window.
Common Tag Name Definition	Double-click, or select [Open] from the popup menu.	Opens the Common Tag Name Definition edit window.
	Select [Compare] from the popup menu.	Compares files in Common Tag Name Definition.
	Select [Output CSV Data] from the popup menu.	Exports Common Tag Name Definition as CSV data.
	Select [Load CSV Data] from the popup menu.	Imports CSV data to Common Tag Name Definition.
Constant Definition	Double-click, or select [Open] from the popup menu.	Opens the Constant Definition edit window.
	Select [Compare] from the popup menu.	Compares files in Constant Definition.
CPU Properties	Double-click, or select [Open] from the popup menu.	Opens the CPU Properties screen of the Project Settings/Configuration window.
Project Settings/Configuration	Double-click	Opens the Project Settings/Configuration window.
Component Blocks	Select [Define Program Components] from the popup menu.	Opens the Execution Block Components screen of the Project Settings/Configuration window.
Block under the Component Blocks	Double-click, or select [Open] from the popup menu.	Opens the Edit Block window.
	Select [Reference Block (Read Mode)] from the popup menu.	Opens the block in read mode.
	Select [Reference Block (Write Mode)] from the popup menu.	Opens the block in write mode.
	Select [Rename Library Block] from the popup menu.	Renames the common library block file.
	Select [Delete Library Block] from the popup menu.	Deletes the selected block from the common library.
Block List	Select [Copy File] from the popup menu.	Copies a project block with a different name.
	Select [Insert File] from the popup menu.	Adds a block file to the project.
	Select [Rename File] from the popup menu.	Changes the file name of the specified block in the project.
	Select [Delete File] from the popup menu.	Deletes a block file in the project.

Tree Item	Operation	Function
Block under the Block List	Select [Compare] from the popup menu.	Compares block programs.
	Select [Block Tag Name Definition] from the popup menu.	Opens the Block Tag Name Definition window.
	Select [Local Device/Properties] from the popup menu.	Opens the Local Device/Properties dialog box.
	Select [Copy File] from the popup menu.	Copies a block with a different name.
	Select [Rename File] from the popup menu.	Changes the block file name.
	Select [Delete File] from the popup menu.	Deletes the block.
	Select [Add to Library] from the popup menu.	Registers the block in the common library.
	Double-click, or select [Open] from the popup menu.	Opens the Edit Block window.
Macro List	Select [Copy File] from the popup menu.	Copies a project macro with a different name.
	Select [Rename File] from the popup menu.	Changes the file name of the specified macro in the project.
	Select [Delete File] from the popup menu.	Deletes a macro file in the project.
	Select [Extract Macro] from the popup menu.	Adds a macro file to the project.
Macro under the Macro List	Select [Compare] from the popup menu.	Compares macro programs.
	Select [Block Tag Name Definition] from the popup menu.	Opens the Macro Tag Name Definition window.
	Select [Local Device/Properties] from the popup menu.	Opens the Local Device/Properties dialog box.
	Select [Copy File] from the popup menu.	Copies a project block with a different name.
	Select [Rename File] from the popup menu.	Changes the macro file name.
	Select [Delete File] from the popup menu.	Deletes the macro.
	Select [Register Macro] from the popup menu.	Registers a macro in the macro folder.
	Double-click, or select [Open] from the popup menu.	Opens the Edit Macro window.

■ Project Window - Online

In online mode, the Project window displays the information for the CPU module that WideField3 is connected to online.

It displays the CPU type name, components of the executable program, and instruction macro list as the information for the CPU module.

To switch between showing and hiding the Project window, use [View]–[Project Window].

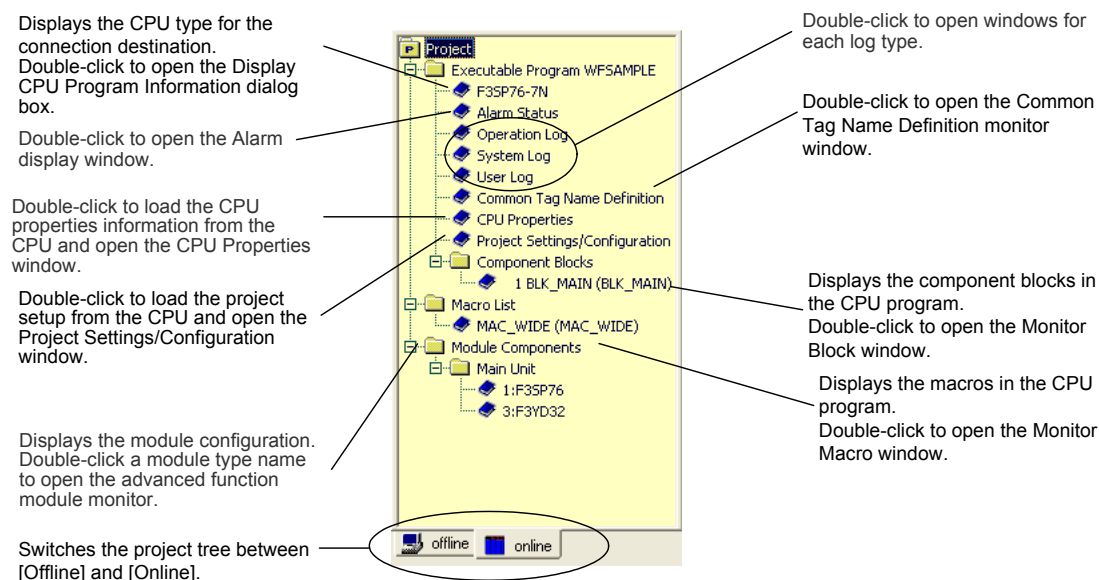


Figure A3.11 Layout of Online Project Window

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You can call up the following functions directly from the online project tree.

Table A3.2 Function List of Online Project Tree

Tree Item	Operation	Function
CPU Type Name	Double-click, or select [CPU Program Information] from the popup menu.	Opens the Display CPU Program Information dialog box.
Alarm Status	Double-click, or select [Display Alarm] from the popup menu.	Opens the Display Alarm dialog box.
	Select [Cancel Alarm] from the popup menu.	Cancels the alarm.
Operation Log	Double-click, or select [Display Operation Log] from the popup menu.	Opens the Display Operation Log window.
	Select [Save As] from the popup menu.	Saves the operation log.
System Log	Double-click, or select [Display System Log] from the popup menu.	Opens the System log display window.
	Select [Clear System Log] from the popup menu.	Clears the system log.
	Select [Save As] from the popup menu.	Saves the system log.
User Log	Double-click, or select [Display User Log] from the popup menu.	Opens the User log display window.
	Select [Clear User Log] from the popup menu.	Clears the user log.
	Select [Save As] from the popup menu.	Saves the user log.
Common Tag Name Definition	Double-click, or select [Common Tag Name Definition] from the popup menu.	Opens the Common Tag Name Definition monitor window.
	Select [Download Common Tag Name Definition] from the popup menu.	Downloads common tag name definitions.
	Select [Upload Common Tag Name Definition] from the popup menu.	Uploads and applies common tag name definitions to the offline project.
CPU Properties	Double-click, or select [CPU Properties] from the popup menu.	Uploads the CPU properties.
Project Settings/Configuration	Double-click	Uploads the project settings/configuration.
Block under the Component Blocks	Select [Local Device/Properties] from the popup menu.	Loads the local device/properties information from the CPU, and opens the Local Device/Properties dialog box.
	Select [Block Tag Name Definition] from the popup menu.	Opens the Block Tag Name Definition window.
	Select [Download Block] from the popup menu.	Downloads the block when an offline project contains the same block.
	Select [Download Block Tag Name Definition] from the popup menu.	Downloads block tag name definitions.
	Select [Upload Block] from the popup menu.	Uploads the block and updates the data on the offline project.
	Select [Upload Block Tag Name Definition] from the popup menu.	Uploads and applies block tag name definitions to the offline project.
	Select [Compare] from the popup menu.	Compares the blocks when an offline project contains the same block.
	Double-click, or select [Open] from the popup menu.	Opens the Monitor Block window.

Tree Item	Operation	Function
Macro under the Macro List	Select [Local Device/Properties] from the popup menu.	Loads the local device/properties information in the CPU, and opens the Local Device/Properties dialog box.
	Select [Block Tag Name Definition Monitor] from the popup menu.	Opens the Macro Tag Name Definition monitor window.
	Select [Download Block] from the popup menu.	Downloads the macro when an offline project contains the same macro.
	Select [Download Block Tag Name Definition] from the popup menu.	Downloads macro tag name definitions.
	Select [Upload Block] from the popup menu.	Uploads the macro and updates the data on the offline project.
	Select [Upload Block Tag Name Definition] from the popup menu.	Uploads and applies macro tag name definitions to the offline project.
	Select [Compare] from the popup menu.	Compares the macros when an offline project contains the same macro.
	Double-click, or select [Open] from the popup menu.	Opens the Monitor Macro window.
Module Components	Select [Update with Latest Information] from the popup menu.	Updates the module configuration.
Module type under the Module Components	Double-click	Opens the Device Monitor.
	Select [Adv. Function Module Register Monitor] from the popup menu.	Opens the Advanced Function Module Register Monitor.
	Select [Input Relay Monitor] from the popup menu.	Opens the Input/Output Relay Monitor.

■ Output Window

The output window is an auxiliary window that facilitates WideField3 functions.

Tab name of the output window

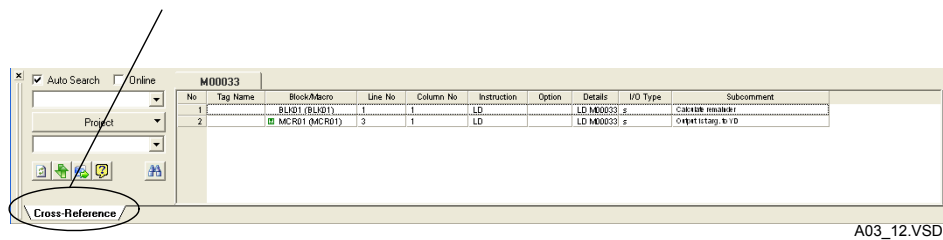


Figure A3.12 Layout of Output Window

The output window is used for the following WideField3 function.

- Cross reference
- Device list

■ Balloon List Window

The balloon list window shows a list of balloons created in the project. The display of the balloon list window can be switched between the Online and Offline tabs.

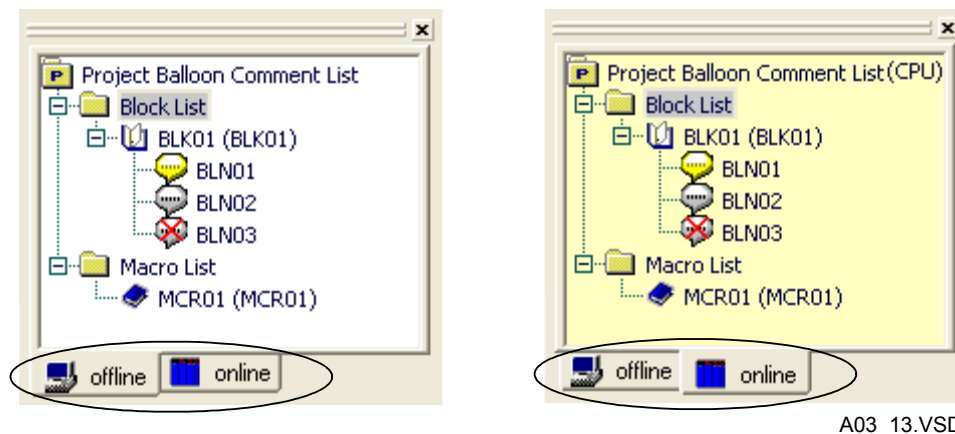


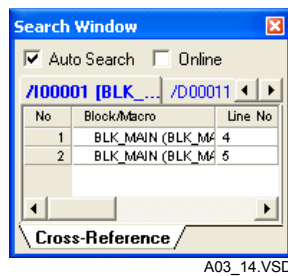
Figure A3.13 Layout of Balloon List Window

SEE ALSO

For details of the balloon list window, see Section E1.2.39, "Creating and Deleting Balloon Comments" (Offline).

■ Search Window

The search window allows simple viewing of project cross references.



A03_14.VSD

Figure A3.14 Layout of Search Window

SEE ALSO

For details on the search window and cross references, see Chapter E6, "Cross Reference" (Offline).

A3.2 Function List

The following table lists all the WideField3 functions.

Table A3.3 Function List

Menu Bar	Menu Command	Description
File	New Project	Creates a new project.
	Open project	Opens an existing project.
	Open project (Restore Display Status)	Opens a project with the same screen configuration as when the project was last saved.
	Close Project	Closes an open project.
	Save Project	Saves an open project.
	Save Project As	Saves an open project with a different name.
	Save Current Display Status	Saves the current screen configuration.
	Restore Display Status	Restores the saved screen configuration.
	Open Project in Other Formats	Converts non-WideField3 format (card load format, CADM3 format) or compressed and segmented project data into WideField3 format and opens the project.
	Save Project in Other Formats	Saves an open project in non-WideField3 format (card load format, CADM3 format, WideField2 or WideField format) or compressed and segmented project data.
	New	Creates a new block, instruction macro, group template or structure type definition.
	Open	Opens a file (block/macro, reference block (in read mode), reference block (in write mode), CADM3 file, log file, group template, structure type definition, or CPU properties).
	Close	Closes various open files and screens.
	Close All	Closes all open windows.
	Close All Except Frontmost Window	Closes all windows except for the currently active window.
	Save	Saves an open file, overwriting the existing file. During program monitoring or block monitoring, the menu display changes to [Reflect on File] and when selected, reflects online edited data on a file.
	Save As	Saves an open block or instruction macro with a different file name. During program monitoring or block monitoring, the menu display changes to [Reflect on Another File] and when selected, reflects online edited data on a file with a different name.
	Print Setup	Performs printer set up.
	Print Preview	Displays a preview of print output.
	Print	Prints various screens and projects.
	Compare Project	Performs comparison between projects.
	Compare Window	Performs comparison against the active window.
	Recent Opened Projects	Displays a project history listing up to 5 most recently opened projects.
	Exit	Exits the application.

Menu Bar	Menu Command	Description
Edit	Undo	Cancels the previous operation and restores the original state.
	Convert	Converts the entered circuit into the instruction mnemonic.
	Cut	Cuts the designated area and pastes it on the clipboard.
	Copy	Copies the designated area and pastes it on the clipboard.
	Paste	Pastes the contents of the clipboard onto the designated area.
	Paste Special	Pastes the contents in a selected format.
	Delete	Deletes the designated area.
	Image Copy	Saves the circuits in the designated area to the clipboard as a bitmap.
	Revise Instruction/Circuit	Revises the attributes of instructions in the program. Mnemonic/script contents can also be edited.
	Insert Line	Inserts one line.
	Delete Lines	Deletes the lines in the designated area and removes the resulting empty spaces.
	Temporary Delete	Deletes lines in the designated area temporarily. The deleted lines simply change in color but do not disappear.
	Undo Temporary Delete	Restores items that were temporarily deleted.
	Ladder Symbols	Displays the circuit instruction symbols.
	Hide/Show Circuits	Hides all circuits after the circuit comment up to the next circuit comment, or redisplay circuits that have been hidden.
	Page Break	Inserts a page break mark in a circuit comment during printing.
	Delete Page Break	Deletes page breaks.
	Insert Blank Page	Inserts a blank page.
	Create Balloon Comment/Monitor	Creates balloon comments or monitor.
	Circuit Comment-out	Temporarily disables, activates or inactivates the circuit or instruction. Also, commenting out that has been set can be disabled.
	Output CSV data for Circuit Comment/Subcomment	Exports circuit comment/subcomment information in the program as CSV data.
	Load CSV Data for Circuit Comment/Subcomment	Imports circuit comment/subcomment information from CSV data into the program.
	Block Tag Name Definition	Displays the tag name definition screen..
	Local Device/Properties	Defines the number of local devices in a block and the properties of the block.

Menu Bar	Menu Command	Description
Find	Find	Searches for a device.
	Find in Project	Searches a project for a device, block name, label, circuit comment, subcomment, or I/O comment and displays results in a list.
	Find Instruction	Searches for an instruction.
	Find Instruction in Project	Searches a project for an instruction and displays results in a list.
	Find Circuit Comment-out	Searches for circuit comment-out locations.
	Find Circuit Comment-out in Project	Searches a project for circuit comment-out locations and displays them in a list.
	Find Next	Searches upwards/downwards for the previous designated search item.
	Jump to Tag Name Definition	Jumps to the appropriate location in the tag name definition for the device at the cursor position.
	Jump to Device Monitor	Jumps to the appropriate location in the device monitor for the device at the cursor position.
	Jump	Jumps to a designated place. The submenu provides options for a sequential search, setting or jumping back to a starting point of a sequential search, jumping one step back, and jumping to the next input or output, the next address, the first line, the last line, a designated line number, a designated instruction number, the line start, the line end, and the next or previous circuit comment line.
	Replace	Replaces a circuit device with another.
	Replace in Project	Replaces tag names or addresses over all blocks in a project.
	Obsolete Device List	Displays a device list and marks devices currently used in a block.
	Search Cross-Reference	Creates a cross reference to the device currently selected in a block.
View	Toolbar	Switches between displaying and hiding the tool bar.
	Instruction Palette	Switches between displaying and hiding the instruction palette.
	Status Bar	Switches between displaying and hiding the status bar.
	Find Bar	Switches between displaying and hiding the find bar.
	File Comparison Bar	Switches between displaying and hiding the file comparison bar.
	Action Monitor	Switches between displaying and hiding the action monitor.
	Project Window	Switches between displaying and hiding the project window.
	Output Window	Switches between displaying and hiding the output window.
	Balloon Comment List	Switches between displaying and hiding the balloon list window.
	Page Display	Specifies how to display a page.
	Search Window	Displays the simplified cross reference window.
	Display Ladder Converted from Script	Displays a ladder program converted from a script.
	Specify Display Mode	Specifies various display modes. The submenu provides options for I/O comment display, (expanded) instruction parameter display, instruction number display, address display, detailed display, instruction range display, and display format.
	Redraw	Redraws a circuit.
	Zoom	Enlarges or reduces circuits in the display. The submenu provides options for enlargement and reduction.
	Suspend Monitoring	Temporarily stops monitoring the entire screen. The menu display changes to [Resume Monitoring].

Menu Bar	Menu Command	Description
Project	Project Settings	Performs various project settings.
	Define Program Components	Defines the components of an executable program.
	User Log Message	Creates a user log message in a project.
	Common Tag Name Definition	Defines common tag names for all blocks in a project.
	Constant Definition	Defines constant names and values in a project.
	I/O Comment Display Settings	Displays the I/O Comment Display Settings dialog box.
	Check Program	Checks program syntax of all blocks in a project.
	Find in Project	Searches all blocks in a project for a device, block name, label, circuit comment/subcomment or I/O comment and displays the result as a list.
	Find Instruction in Project	Searches all blocks in a project for a specified instruction and displays the result as a list.
	Find Circuit Comment-out in Project	Searches a project for circuit comment-out locations and displays them in a list.
	Replace in Project	Replaces tag names or addresses over all blocks in a project.
	Change I/O Installation Position	Changes all addresses of input/output relays to accompany a change in the I/O slot.
	Obsolete Device List	Displays a device list and marks devices used in any block in a project.
	Device List	Displays device usage in a map or list.
	Copy File	Copies a block in a project and saves it with a different name within the project.
	Insert File	Copies block, common tag name definition or constant definition file from other folders into a project.
	Rename File	Changes the block or macro file name of a block or instruction macro in a project.
	Delete File	Deletes a block or instruction macro file in a project.
	Add to Library	Registers a block in the library.
	Rename Library Block	Changes the name of a block registered in the library.
	Delete Library Block	Deletes a block from the library.
	Register Macro	Registers instruction macros in a project to the macro folder.
	Extract Macro	Extracts an instruction macro from a macro folder into a project.
	Convert Data	Converts data from tag name format to address format or vice versa.

Menu Bar	Menu Command	Description
Online	Connect	Connects the PC and the FA-M3.
	Disconnect	Disconnects the PC and the FA-M3.
	Program Monitor	Monitors the circuits of a block of the CPU.
	Macro Monitor	Monitors the circuits of an instruction macro of the CPU.
	X+Y Input/Output Relay	Displays I/O component information for the connection destination.
	Device Monitor	Monitors devices of the CPU.
	Registered Device Monitor	Designates devices to be monitored.
	Watch Monitor	Displays devices automatically in accordance with the visible area of the program monitor, allowing such devices to be monitored.
	Configuration	Displays the project setup.
	CPU Program Information	Displays information of projects stored in the CPU in a list.
	Common Tag Name Definition	Displays items copied from the project folder to the monitor folder.
	Constant Definition	This menu command is not supported in WideField3 R1.01.
	CPU Properties	Reads and displays CPU properties stored in a destination CPU.
	Operating Mode	Switches the operating mode. The submenu provides options to change to Run mode, Stop mode or Debug mode.
	Download[PC->CPU]	Downloads executable programs from the PC to the CPU. Transfers a designated block or macro from the PC to the CPU.
	Upload[CPU->PC]	Transfers executable programs from the CPU to the PC. Transfers a designated block or macro from the CPU to the PC. Transfers tag name definitions from the CPU to the PC.
	Compare File and CPU	Compares the executable programs in the PC and the CPU.
	ROM Management	Manages the ROM pack. The submenu provides options to transfer from file to ROM, to transfer from CPU to ROM, to compare a file to the ROM, to erase the ROM, to switch to ROM Writer mode, and to cancel ROM writer mode.
	Extended Functions	Performs various controls over the CPU. The submenu provides options to temporarily change communication speed, to set the time, to clear the program in the CPU, to clear devices, to reset start, to forcibly cancel online editing mode, to manage exclusive access control, to clear CPU properties, as well as to enable/disable CPU properties.
	Adv. Function Module Register Monitor	Defines the data type and comment to be displayed in the Advanced Function Module Register Monitor.
	Online Balloon Comment/Monitor	Executes online operation of balloon comments. This menu provides options to store online balloon comment/monitor in the CPU, to reflect online balloon comment/monitor to offline projects, and to read balloon comment/monitor from the CPU.

Menu	Menu Command	Description
Debug/ Maintenance	Forced Set	Forces a device to set.
	Forced Reset	Forces a device to reset.
	Cancel Forced Set/Reset	Cancels a device that has been forced set or reset.
	Cancel All Forced Set/Reset	Cancels forced sets/resets on devices.
	Change Word Data	Changes the current value of a device with word data.
	Change Long Word Data	Changes the current value of a device with long word data.
	Change Double Long Word Data	Changes the current value of a device with double long word data.
	Change Current Value of Timer/Counter	Changes the current value of a timer or counter.
	Change Preset Value of Timer/Counter	Changes the preset value of a timer or counter.
	Start Online Editing	Starts online editing. In online edit mode, the menu display changes to [End Online Editing].
	Start Block	Restarts a stopped block.
	Stop Block	Stops a running block.
	Stop Refreshing	Stops refreshing. The submenu provides options to stop input, output, common and link registers and relays.
	Restart Refreshing	Restarts refreshing of all points.
	Display Alarm	Displays all current alarms generated by the CPU. When alarms are displayed, the menu display changes to [Redisplay Alarm].
	Cancel Alarm	Cancels CPU alarm data.
	Display CPU Log	Displays various logs. The submenu provides options for displaying the operation, system and user logs, and for clearing the logs.
Tools	Set up Environment	Set up the PC environment.
	Import Environment Settings	Imports an environment setup.
	Export Environment Settings	Exports an environment setup.
	Return to Default Environment Settings	Restores the default environment setup.
	Display Hidden Message Dialog Boxes	Resets the setting for hiding confirmation dialog boxes to allow them to be displayed again.
	Customize Keys	Customizes shortcut keys for WideField3.
	Language Change	Changes the language mode for WideField3.
	Auto Indexing	Automatically updates the database to be referred to in a cross reference.
	Return to Initial Display Status	Reset the layout of windows currently displayed to the default.
	Mail	Uses E-mail to debug the sequence CPU.
	E-mail to Technical Support	Starts the mailer program, and displays a screen for preparing a new message to be sent to technical support at Yokogawa.
	Set up I/O Module	Starts FA link and FL-net tools.
	Device Management	Starts Device Manager.
	Sampling Trace	Starts Sampling Trace.
	FA-M3 Defender	Starts FA-M3 Defender.
Window	Cascade	Displays windows, overlapped in a cascade manner.
	Tile	Displays windows alongside, in a tile manner.
	Arrange Icons	Arranges the icons.
	Window List	Displays a list of all windows currently open.
Help	WideField3 Help	Displays help information by function.
	Contents and Index	Displays help information by keyword.
	About WideField3	Displays WideField3 version information.

A3.3 List of Generated Files

This section describes the generated files.









CAUTION

User program files in WideField3 are managed as version 5 files in WideField series.

Table A3.4 Specifications of Generated Files

Generated File	Icon	Extension	Item	Specifications
Project file		.YPJT	File name	Up to 8 alphanumeric characters, beginning with a letter. May also contain special characters '-' (hyphen) and '_' (underscore).
			Project title	Up to 32 alphanumeric characters and special characters.
Executable program file		.YPRG	File name	Only one program file having the same name as the project can be created within a project.
			Number of component blocks	Up to 1,024 blocks (Limit depends on CPU type.)
			Configuration Settings	0 or 1 (setup is optional)
			User log message settings	0 or 1 (setup is optional)
		.YMPR	File name	Up to 254 alphanumeric characters and special characters for an absolute path. The characters must be within Windows specifications range (file for E-mail).
Configuration file		.YC□□	File name	Only one file having the same name as the project can be created within a project.
User log message file		.YUMS	File name	Only one file having the same name as the project can be created within a project.
			Number of message characters	Up to 32 alphanumeric characters and special characters.
			Number of messages	Up to 64 messages
Common tag name definition file		.YCMN	File name	Only one file with the same name as the project can be created within a project.
			Number registered	Up to 70,000
Constant definition file		.YCDF	File name	Only one file with the same name as the project can be created within a project.
			Number registered	Up to 2,048
Block file		.YBLK	File name	Up to 8 alphanumeric characters beginning with two letters. May also contain special characters '-' (hyphen) and '_' (underscore).
			Number of steps	Up to 56K steps, for models F3SP28-3S/38-6S/53-4S/58-6S/59-7S/66-4S/67-6S/71-4N/76-7N. Up to 10K steps, for models other than the above.
			Number of lines	Up to 20,000 lines.
Block tag name definition file		.YSIG	File name	Can be created with the same name as the block.
			Number registered	Up to 5,120 data sets.
Instruction macro file		.YMCR	File name	Up to 8 alphanumeric characters beginning with 2 letters. May also contain special characters '-' (hyphen) and '_' (underscore).
			Number of steps	Up to 10K steps.
			Number of lines	Up to 20,000 lines.
Macro tag name definition file		.YMCS	File name	Can be created with the same name as the macro.
			Number registered	Up to 5,120 data sets.
Group template file		.YGRP	File name	Up to 8 alphanumeric characters beginning with a letter. May also contain special characters '-' (hyphen) and '_' (underscore).
			Number registered	Up to 64 data sets.

Generated File	Icon	Extension	Item	Specifications
Structure Type Definition File		.YGRS	File Name	Up to 8 alphanumeric characters beginning with a letter. String may also include special characters '-' (hyphen) and '_' (underscore)
System Log File		.YSLG	File Name	Up to 8 alphanumeric characters beginning with a letter. String may also include special characters '-' (hyphen) and '_' (underscore)
User Log File		.YULG	File Name	Up to 8 alphanumeric characters beginning with a letter. String may also include special characters '-' (hyphen) and '_' (underscore)
Operation Log File		.YCLG .YOLG	File Name	For a .yclg file: up to 8 alphanumeric characters beginning with a letter. String may also include special characters '-' (hyphen) and '_' (underscore) For a .yolg file: up to 254 alphanumeric characters and special characters for an absolute path. (The characters must be within Windows specifications range)
Sampling Trace Setup File		.YTST2 .YTSC	File Name	For a WideField3 format setup file (.ytst2): up to 255 characters for an absolute path. (The characters must be within Windows specifications range) The file name can be up to 80 characters including its file extension. For a card format setup file (.ytsc2): file name length and available characters within Windows specifications range.
Sampling Trace Results File		.YTRC2 .CSV .YTRS	File Name	For a WideField3 format result file (.ytrc2): up to 240 characters for an absolute path. (The characters must be within Windows specifications range) For a card format result file (.ytrs): up to 127 characters for an absolute path excluding its file extension.
Device Management File		.YDVF	File Name	Up to 254 characters for an absolute path. (The characters must be within Windows specifications range)
		.YMDV	File Name	Up to 254 characters for an absolute path. (The characters must be within Windows specifications range)(File for E-mails)
CPU Property File		.YPRP	File Name	Only one file with the same name as the project can be created within a project.
FA Link Setup File		.FAI	File Name	Up to 8 alphanumeric characters, beginning with a letter.
Balloon Comment File		.YBLC	File Name	Only one file with the same name as the project can be created within a project.
Long and Short Names File		.TXT	File Name	Fixed to LONGNAME.TXT.
Operation Protection Settings File		.YODF	File Name	Up to 254 characters for an absolute path. (The characters must be within Windows specifications range)
Screen State Save File		.YUSR	File Name	Fixed to ResumeInfo.YUSR.
Print Setup File		.YPRN	File Name	Only one file with the same name as the project can be created within a project.
Screen Resume File		.YUSR	File Name	Fixed to ResumeInfo.YUSR.

A3.4 Elements of Edit Circuits

This section describes the elements of an edit circuit.

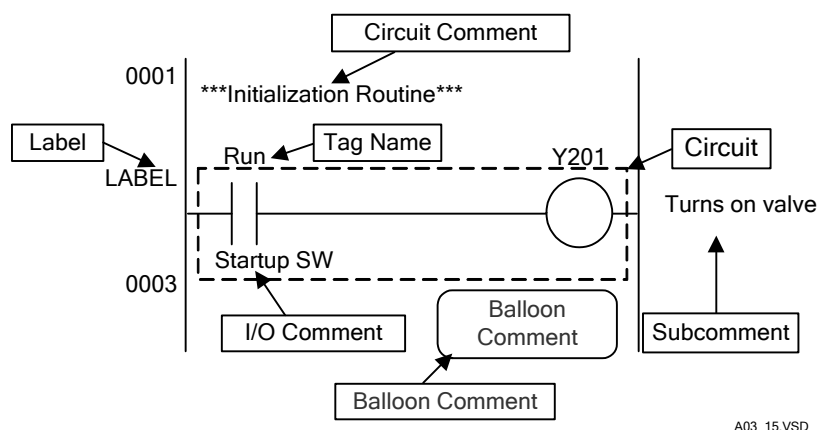


Figure A3.15 Elements of Edit Circuit

Table A3.5 Specifications of Circuit Elements

Element	Item	Specifications
Tag Name	Number of Characters, Valid Characters	Up to 16 alphanumeric characters, beginning with two letters. String may also contain special characters '-' (hyphen), '_' (underscore) and '.' (period). A period character can be used as a separator between a structure name and a structure member name. However, strings that are not distinguishable from device names are not allowed.
	Number Registered	For block tag name reference, up to 5,120. For common tag name reference, up to 70,000.
Structure	Structure name	2 to 7 alphanumeric characters, beginning with a letter. String may also contain special characters '-' (hyphens) and '_' (underscore). However, strings that are not distinguishable from device names are not allowed.
	Structure member name	1 to 8 alphanumeric characters.
	Separator	Period
Constant name	Number of Characters, Valid Characters	Up to 16 alphanumeric characters, beginning with a '#' character. String may also contain special characters '-' (hyphen) and '_' (underscore).
Circuit	Number of Lines in 1 Circuit	Up to 25 lines.
	Number of Instructions in 1 Circuit	Up to 128 instructions.
	Continuation Lines	Up to 3 lines.
	Number of Horizontal Columns	Fixed at 11 columns.
Circuit Comment	Number of Characters	Up to 72 characters.
	Number Registered	For model, F3SP□□-□□S and F3SP71/76, no restriction. For other CPU types, up to 3,000, including sub-comments in the entire executable program.
Subcomment	Number of Characters	Up to 24 characters.
	Number Registered	For model, F3SP□□-□□S and F3SP71/76, no restriction. For other CPU types, up to 3,000, including circuit comments in the entire executable program.
I/O Comment	Number of Characters	Up to 32 characters.
	Number Registered	For block tag name definition reference, up to 5,120. For common tag name definition reference, up to 70,000.
Title	Number of Characters	Up to 24 characters.
Label	Number of Characters	Alphanumeric string of up to 6 characters, beginning with two alphabets. Special characters '-' (hyphen) and '_' (underscore).
	Number Registered	There is a maximum limit over the entire executable program, which is dependant on the CPU Type.
Balloon Comment	Number of Characters	A comment name must be up to 64 characters. A comment can contain up to 32 lines. Each line can be up to 64 characters.
	Number Registered	No restriction

A3.5 Shortcut Keys





















Shortcut keys are assigned to certain menus or instructions to allow a user to select menus or enter instructions using the keyboard.

For example, pressing [Ctrl] + [N] selects the [New] menu. The following table lists typical shortcut keys and icons.

Some functions on menus are not assigned with shortcut keys.

Table A3.6 List of Shortcut Keys

Classification	Shortcut Key	Icon	Menu
Menu	Ctrl+N		New
	Ctrl+S		Save, Reflect on File
	Ctrl+Z		Undo
	Ctrl+U		Convert
	Ctrl+X		Cut
	Ctrl+C		Copy
	Ctrl+V		Paste
	Delete		Delete
	Shift+Insert		Insert Line
	Shift+Delete		Delete Lines
	Alt+Enter		Local Device/Properties
	Ctrl+F		Find
	F3		Find Next
	Shift+F3	—	Find Previous
	Ctrl+R		Replace
	Ctrl+Home		Top
	Ctrl+End		Bottom
	Ctrl+I		Display I/O Comment
	Ctrl+K		Display Instruction Number
	Ctrl+A		Display Address
	Ctrl+W		Detail
	F5		Forced Set
	Shift+F5		Forced Reset
	F6		Cancel Forced Set/Reset
	Shift+F6		Cancel All Forced Set/Reset
	F7		Change Word Data
	Shift+F7		Change Long Word Data
	F8		Change Current Value of Timer/Counter
	Shift+F8		Change Preset Value of Timer/Counter
	Ctrl+H		Start Block
	Alt+Ctrl+Z		Stop Block
	F1		Help

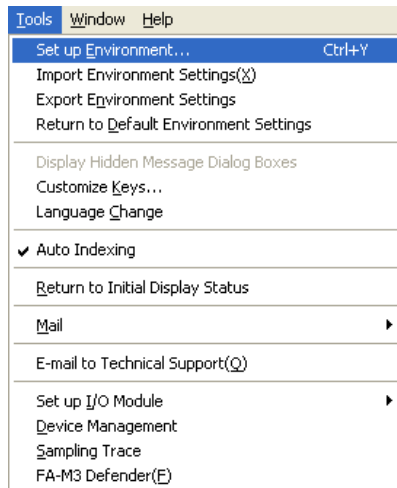
Classification	Shortcut Key	Icon	Description
Instruction	F4		Application Instruction
	Shift+F4		Application Instruction List
	F5		Contact A
	Shift+F5		Contact B
	F6		Contact A OR
	Shift+F6		Contact B OR
	F7		OUT
	Shift+F7		OUTN
	F8		Vertical Line
	Shift+F8		Delete Connect Line
	F9		Horizontal Line
	Shift+F9		Continuation Line
	F11		TIM
	Shift+F11		CNT
	F12		SET
	Shift+F12		RST
	Ctrl+F7		Circuit Comment
	Ctrl+F8		I/O Comment
	Ctrl+F9		Subcomment
	Ctrl+F6		Label

■ Access Keys

Access keys are letters assigned to menu items to allow a user to select a menu using the keyboard. Access keys are displayed as underlined letters on a menu.

For example, pressing the [ALT] key, followed by the [T] key opens the [Tools] menu.

Pressing the [E] key in this state selects the [Set up Environment] menu item.



A03_16.VSD

Figure A3.16 Access Keys

A3.6 Basic Keys

The following table list the keys used in WideField3 and their functions.

Table A3.7 Basic Keys

Key	Purpose
Esc	- Interrupts execution. - Cancels the selection of an instruction.
Tab	- Switches between input areas in a dialog.
Insert	- Switches between overwrite and insert mode.
Ctrl	- Selects a menu item when used in combination with other keys.
Alt	- Selects a menu bar item when used in combination with other keys.
Page Up	- Scrolls the screen up.
Page Down	- Scrolls the screen down.
Delete	- Deletes the element at the cursor. - Deletes 1 character.
Shift	- Enters a shifted character.
Backspace	- Deletes the character to the left of the cursor position.
Enter	- Enters a carriage return character.
\$	- Prefixes a hexadecimal number.
%	- Prefixes in a floating-point number.
"	- Delimits a character string.
_ (underscore)	- Separates a group name and a member name.
. (period)	- Separates a structure name and a member name.
[]	- Delimits an array index for a structure array.
/	- Prefixes a local device name.

A3.7 Types of Screens

This section describes the different types of screens and their restrictions. WideField3 uses the following types of screens.

● Windows

Windows can be enlarged or reduced. Multi-window operations are supported.

You can open up to 16 online windows concurrently.

To close a window, select [File]–[Close] from the menu bar.

To close all windows that are currently displayed, select [File]–[Close All].

To close all the windows except for the currently active window, select [File]–[Close All Except Frontmost Window].

TIP

If you open a new window when the maximum number of windows are already open, the window at the back (the rearmost window of the window stack) automatically closes. If the window at the back is an Edit Block window being edited or is under online editing, a message box appears to check if you want to save or apply any changes made.

● Modeless Dialogs

Menu operations sometimes move control to a modeless dialog. To close a modeless dialog, click on the corresponding button displayed on the dialog. Commands from menus have no effect on a modeless dialog.

The following table summarizes the types of screen and their limitations.

Table A3.8 Types of Screens

Category	Type of Screen	Purpose	Screen Type	Restrictions
Edit Block	Circuit edit screen	Creates circuits for a block	Window	1 screen per block
	Tag name definition edit screen	Performs block tag name definitions.	Window	1 screen per block
	Device usage status display screen	Displays a list of devices used in a block.	Modeless dialog	1 screen
Edit Instruction Macro	Circuit edit screen	Creates circuits for a macro.	Window	1 screen per macro
	Tag name definition edit screen	Performs macro tag name definitions.	Window	1 screen per macro
	Device usage status display screen	Displays a list of devices used in a macro.	Modeless dialog	1 screen
Compare file	Program comparison results screen	Displays the comparison results for 2 programs as a ladder and/or a list.	Window	No restrictions
	Project comparison results screen	Displays the comparison results for 2 projects as a list.	Window	No restrictions
CPU Log Reference	System log reference screen	Loads system log files.	Window	Up to 16 screens
	User log reference screen	Loads user log files.	Window	Up to 16 screens
	Operation log reference screen	Loads operation log files.	Window	Up to 16 screens
Edit Group Template	Group template edit screen	Sets the members in a group.	Window	No restrictions
Edit Structure Type Definition	Structure type definition edit screen	Defines the members of a structure type.	Window	No restrictions
Edit Constant Definition	Constant definition edit screen	Defines constant names for constant values	Window	1 screen
Project Configuration	Tag name definition edit screen	Defines tags common to all blocks.	Window	1 screen
	Syntax check results screen	Displays a list of errors detected during program syntax checking.	Window	1 screen
	Project search list screen	Displays the results of a project search.	Window	No restrictions
	Project device usage status display screen	Displays a list of devices used in all blocks.	Modeless dialog	1 screen
Program Monitor	Block operation status display screen	Displays a list of blocks with their execution status.	Window	1 screen
	Circuit monitor screen	Monitors circuits of blocks.	Window	1 screen per block
	Device usage status screen	Displays a list of devices used in a block.	Modeless dialog	1 screen
Macro Monitor	Circuit monitor screen	Monitors circuits of macros.	Window	1 screen per macro
	Device usage status screen	Displays a list of devices used in a block.	Modeless dialog	1 screen
Device Monitor	I/O configuration display screen	Displays a list of the I/O configuration	Window	1 screen
	Device monitor screen	Monitors devices displayed as a list.	Window	Up to 16 screens
Registered Device Monitor	Registered device monitor screen	Registers and monitors devices.	Window	1 screen
Watch Monitor	Device monitor screen working in association with the program monitor screen	Monitors a list of devices displayed in the program monitor screen.	Window	1 screen
Alarm Monitor	Alarm monitor screen	Reads the status of CPU alarms	Window	1 screen
Compare Online	Comparison results screen	Displays a list of differences found in comparisons	Window	1 screen
E-Mail	Inbox mails screen	Displays a list of incoming mails	Window	1 screen
Project Settings/Configuration	Project settings/configuration edit screen	Edits the project settings/configuration.	Window	1 screen

A4. Installing and Starting WideField3

This section describes how to install the WideField3 software, how to remove it from the PC when it is no longer required, how to start the WideField3 software, and how to exit from the WideField3 software. It also describes how to install the USB driver.



CAUTION

Log in with Administrator privileges in order to set up, perform maintenance on, or remove the WideField3 software. Users without Administrator privileges cannot set up, perform maintenance on, or remove the WideField3 software.

In Windows Vista or Windows 7, select **Run as Administrator** in the installer program. Users without Administrator privileges will not be able to install this software.



CAUTION

When User Account Control (UAC) is enabled in Windows Vista or Windows 7, the installer might not automatically run from the CD-ROM.

If this occurs, use Explorer to select **Setup.exe** on the CD-ROM, and then select **Run as Administrator** to start the installer.



CAUTION

When performing setup in Windows, it is recommended to install the software in a folder for which restricted users have access rights. If the software is installed in a folder that cannot be accessed by restricted users, such users will be unable to use the WideField3 software.

A4.1 Setting up WideField3

This section describes how to install and set up the WideField3 software on a personal computer.

TIP

If you already have an older version of WideField3 installed on a PC, you may upgrade its version. Run the installation program as described below, and select the [Repair] option on the Welcome dialog to upgrade the software version.

TIP

We describe here WideField3 setup in the Windows XP environment. Take note that there may be some differences in the procedure for different operating systems.



CAUTION

Exit from all other applications such as virus protection software before installing the WideField3 software.

◆ Procedure ◆

(1) Insert the product CD-ROM into the CD-ROM drive.

⇒ The installation program starts automatically.

TIP

In Windows Vista or Windows 7, select **Run as Administrator**.

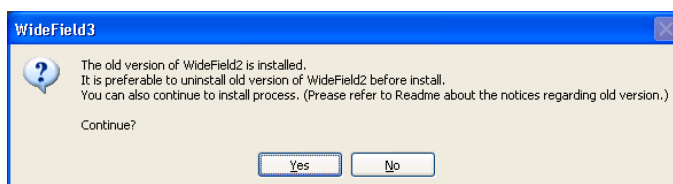
TIP

Start the setup, and you can choose the language displayed and used on WideField3 after installing it.

TIP

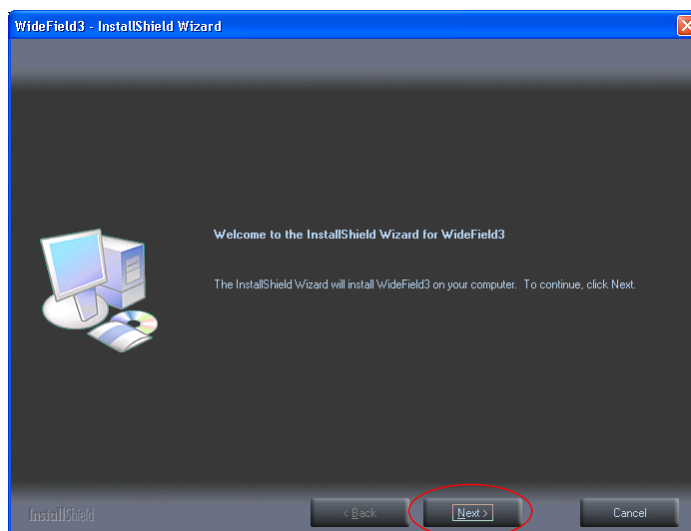
If an older version WideField2 (SF620) is already installed on the system, a confirmation dialog is displayed on the screen. Click [Yes] button to continue with installation.

⇒ The WideField3 InstallShield Wizard runs and displays the Welcome to the InstallShield Wizard for WideField3 dialog box.



Step (1)

A04_01.VSD



Step (2)

A04_02.VSD

(2) Click [Next].

⇒ The License Agreement dialog box opens.

(3) Select the [I accept the terms of the agreement] option button and click [Next].**TIP**

A license agreement document is provided with the product. Click [Next] only if you have carefully read the license agreement and agree with the terms therein. Clicking [Cancel] aborts the installation.

⇒ The Customer Information dialog box will be displayed.

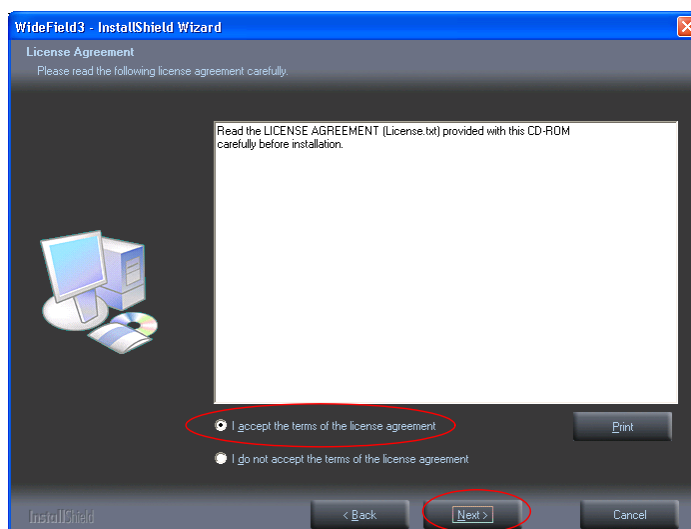
(4) Enter the CD-Key and click [Next].**TIP**

The CD-Key is given on the registration card provided with the product.

⇒ The Choose Destination Location dialog box is displayed.

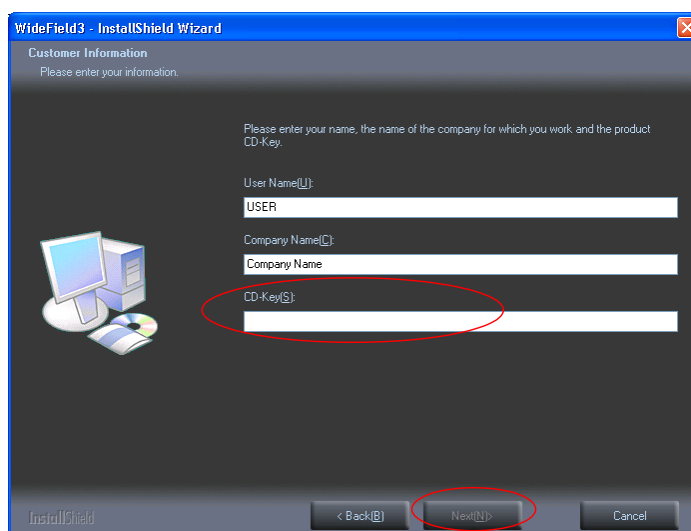
(5) Select the installation destination and click [Next].

⇒ The Select Features dialog box is displayed.



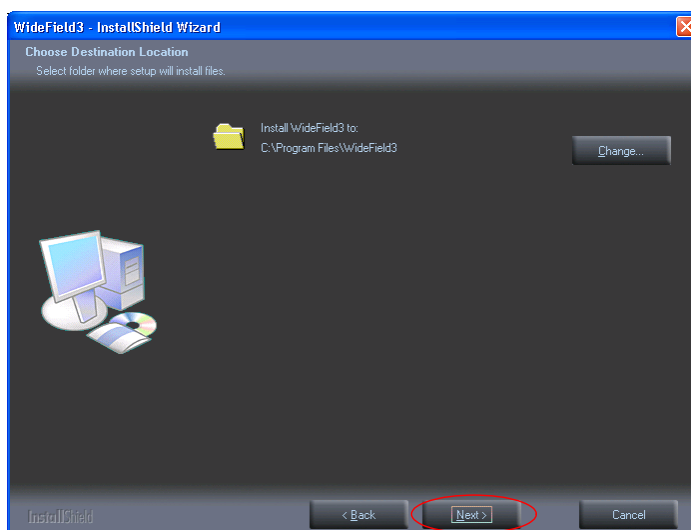
Step (3)

A04_03.VSD



Step (4)

A04_04.VSD



Step (5)

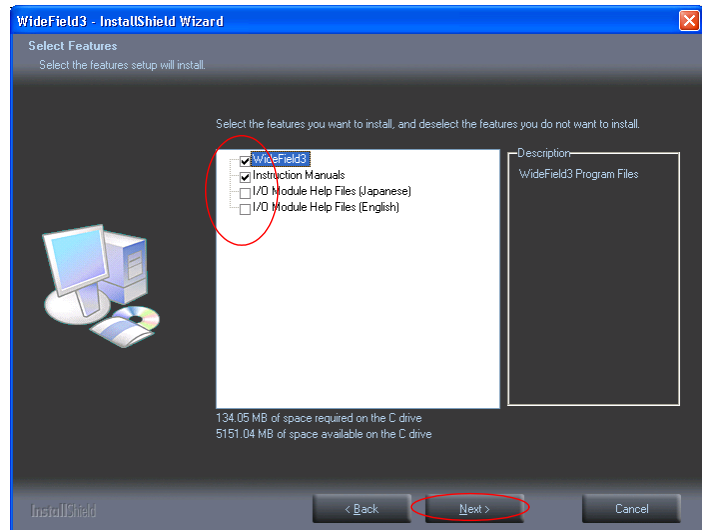
A04_05.VSD

(6) Turn on the checkboxes for the components you wish to install and click [Next].

⇒ The Ready to Install the Program dialog box is displayed.

TIP

The components available for installation include program files (WideField3 software and sample program files), instruction manuals and I/O module help files. Turn on the checkboxes for the components you wish to install.



Step (6)

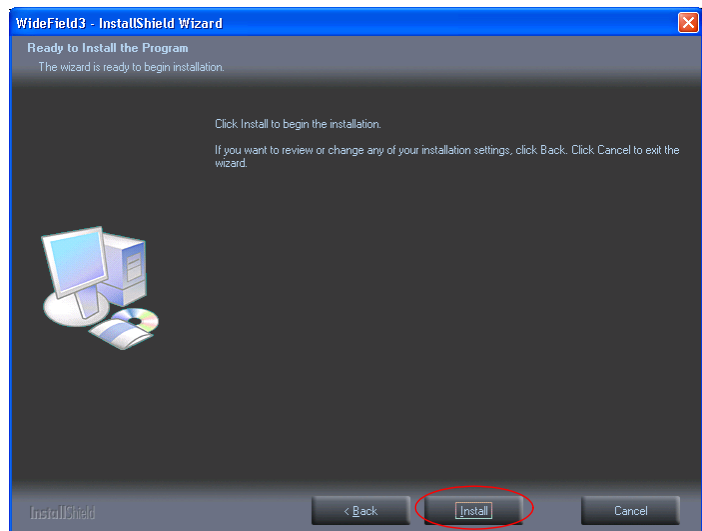
A04_06.VSD

(7) Click the [Install] button.

⇒ Installation begins.

TIP

Restart the computer after installation ends.



Step (7)

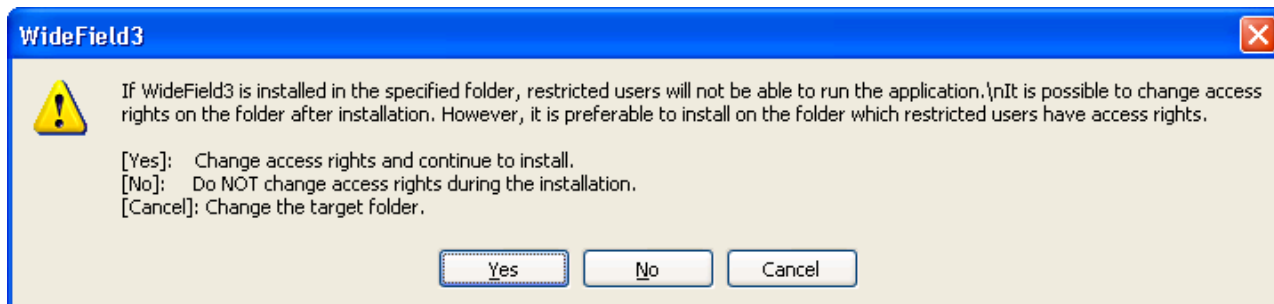
A04_07.VSD

■ Changing Folder Security

Windows allows a user to set access rights on folders. The WideField3 software should be installed in a folder for which restricted users have access rights.

You can also change the access right for an installation folder during the installation.

If you specify a folder for which restricted users do not have access right as the installation destination folder, the following message will be displayed.



A04_08.VSD

Figure A4.1 Changing Access Rights

- [Yes] button
Adds access rights to folder for restricted users, and allows restricted users to continue with installation.
- [No] button
Continues installation without changing folder security.
In this case, restricted users will not be able to run the WideField3 software.
- [Cancel] button
Returns to an earlier screen to specify the installation destination folder.



CAUTION

WideField3 frequently accesses system files in the folder where it is installed. Therefore, if restricted users are not granted update permission for the installation folder, they cannot use the WideField3 software.

We do not warrant that the operating system or other applications will operate correctly if and after folder security is changed.

A4.2 Removing WideField3

This section describes how to remove the WideField3 software

TIP

Removing the WideField3 software does not automatically delete project files or other application files previously created by a user. It also does not delete the USB driver software.

To remove WideField3 from your computer, use the following procedure.

◆ Procedure ◆

- (1) Insert the product CD-ROM into the CD-ROM drive.

TIP

In Windows Vista or Windows 7, select **Run as Administrator**.

- (2) Using Explorer or some other program, move to the root folder on the CD-ROM, and browse the files in the folder.

- (3) Select and run **SETUP.EXE**

TIP

If your PC is running Windows Vista or Windows 7 operating system, select [Run as Administrator].

- ⇒ The InstallShield wizard runs and displays the Welcome dialog box if WideField3 is already installed on your PC.

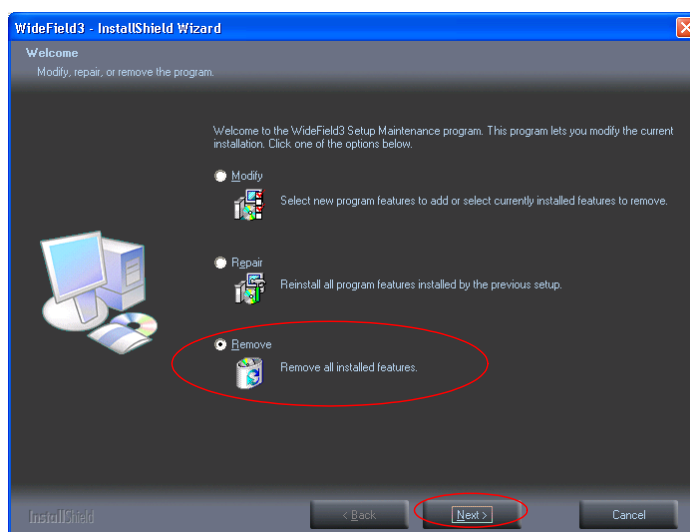
- (4) Turn on the **[Remove]** option button and click **[Next]**.

- ⇒ The Confirm Uninstall dialog box will be displayed.

- (5) Click **[OK]**.

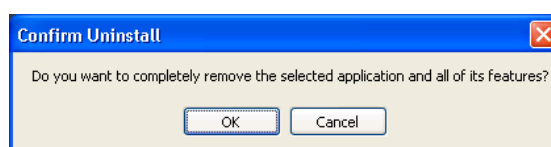
- ⇒ Uninstallation begins. The Maintenance Complete dialog box will be displayed when the program has been removed.

- (6) Click **[Finish]**.



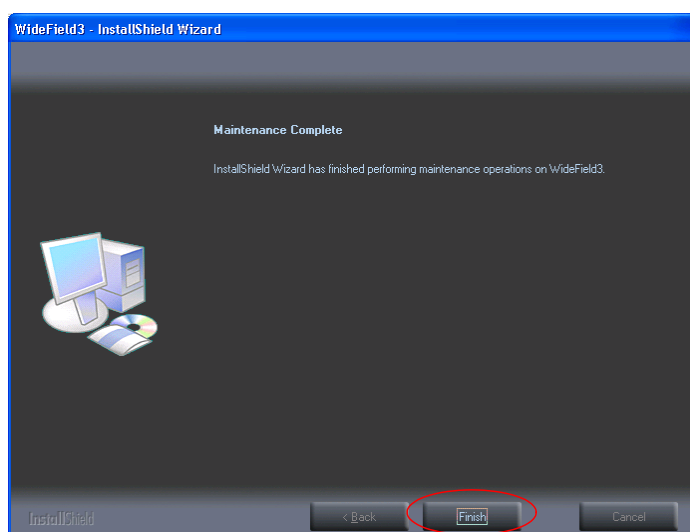
Step (4)

A0402_01.VSD



Step (5)

A0402_02.VSD



Step (6)

A0402_03.VSD

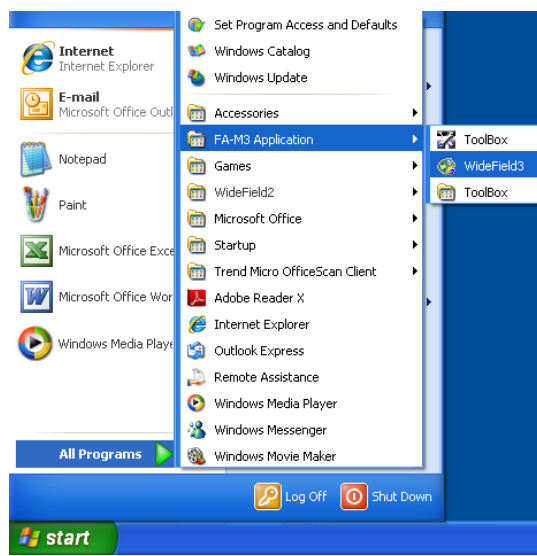
A4.3 Starting WideField3

This section describes how to start the WideField3 software.

◆ Procedure ◆

- (1) Select [Programs]–[FA-M3 Application]–[WideField3] from the Start menu.

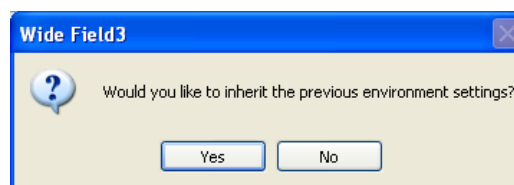
⇒ WideField3 runs.



A0403_01.VSD

TIP

If WideField2 R5 or later has already been installed, a confirmation dialog box appears at the time of initial startup of the WideField3 software, asking whether you wish to inherit the environment setup from the previous version of WideField. If you want to load the previous environment setup, click [Yes]. If not, click [No].



A0403_02.VSD

TIP

- Folder path information in Folder Setup is lost if an environment setup is passed between WideField versions with different major version numbers (that is, if XX of WideFieldXX RYY.ZZ does not match between the source and the target). For example, folder path information is lost when information is passed from WideField2 R5 to WideField3 R1. On the other hand, path information is preserved between WideField3 R1 and WideField3 R2.
- Default values are used for new environment setup items that have been added in the recipient version and thus do not exist in the source version.
- When an environment setup is inherited, any items of the source version to which non-default values have been set are used to update information in the target version. However, e-mail settings and folder path information in Folder Setup are always passed to and used in the target version regardless of the default values.



CAUTION

Do not install the WideField3 software and the WideField (SF610) or WideField2 (SF620) software on the same PC.

The following restrictions apply if you have multiple WideField3 applications running concurrently:

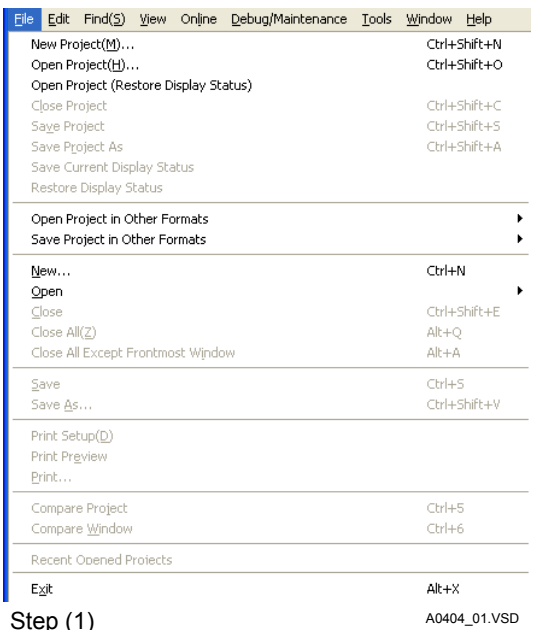
- You cannot open projects with the same name concurrently.
- Only one WideField3 application can connect online to a single FA-M3.
- You can change the environment setup in each WideField3 application. Each WideField3 application will operate according to its respective environment setup until you exit from the application. When you initiate a new WideField3 application, it uses the environment setup of the WideField3 application most recently terminated.

A4.4 Exiting from WideField3

This section describes how to exit from WideField3. The required procedure is given below.

◆ Procedure ◆

- (1) Select [File]–[Exit] from the menu bar.
Alternatively, click the close button on the title bar.
- ⇒ WideField3 exits.



CAUTION

If you attempt to exit from WideField3 with an extended tool (I/O module setup, device manager, sampling trace tool, FA-M3 Defender) running, WideField3 will display the following dialog box and abort exit processing.

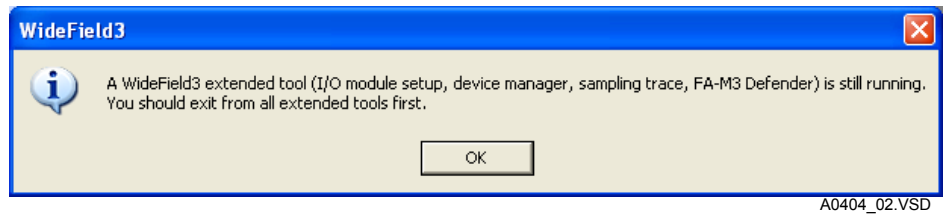


Figure A4.2 Confirmation Dialog Box

You must exit from all extended tools before exiting from WideField3.

A4.5 Installing USB Driver

This section describes how to install the USB driver software.

● For Windows 2000, XP, Vista



CAUTION

The USB driver software is installed when the PC detects a sequence CPU with USB support.

◆ Procedure ◆

- (1) Connect the sequence CPU with USB support to the PC using a USB cable.

⇒ The Found New Hardware Wizard is displayed.

- (2) Select [Install from a list or specific location (Advanced)], and click [Next].

- (3) Select [Search for the best driver in these locations], turn on the [Include this location in the search] checkbox, and in the text box enter "%Program Files%\Common Files\yokogawa\Driver\USBDriver\x86". Click [Next].

TIP

For 32-bit and 64-bit operating systems, open the x86 or x64 folder, respectively.

⇒ Installation begins.

- (4) Click [Finish] to exit from installation.



CAUTION

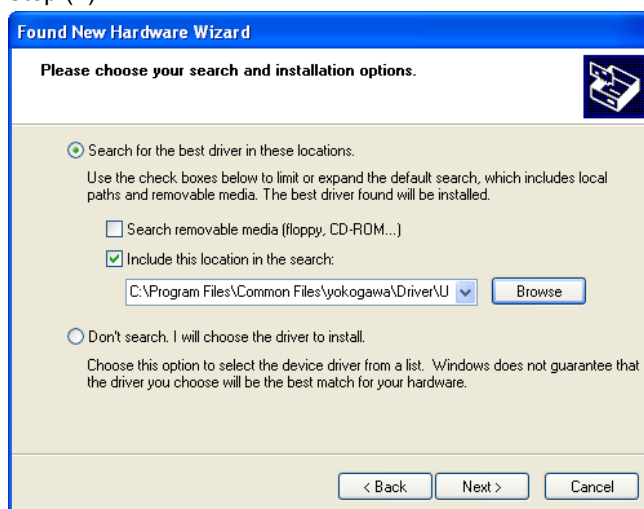
Do not connect the same PC to two or more FA-M3 units using USB cables as only the first connected USB port can be used.

The USB driver of the second and subsequent connected USB ports will not be correctly detected. To rectify the problem, remove and reattach the USB cable.



Step (2)

A0405_01.VSD



Step (3)

A0405_02.VSD

● For Windows 7

**CAUTION**

To install a USB driver in Windows 7, use the installer provided with the product.

◆ Procedure ◆

- (1) Open the "\\Driver\UsbDriver\x86" folder on the CD-ROM using Explorer or some other means.

TIP

%Program Files%\Common Files\yokogawa\Driver\x86 Folder is also available instead of CD-ROM.

**CAUTION**

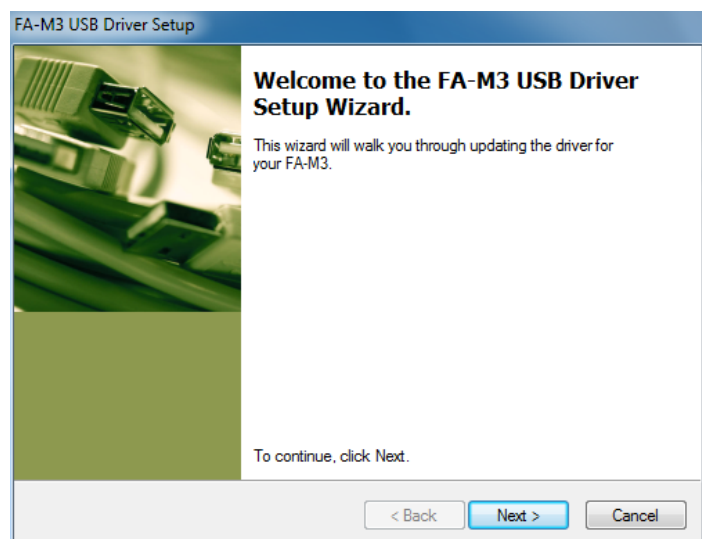
For the location of the driver software folder, select x86 for a 32-bit OS or x64 for a 64-bit OS.

TIP

During driver installation, a dialog box will be displayed to confirm upgrading to Administrator privileges. Select a suitable operation on the dialog box and continue the installation.

- (2) Run "dpinst.exe" as administrator.

⇒ The FA-M3 USB Driver Setup dialog box is displayed.



Step (2)

A0405_03.VSD

(3) Click **[Next]**. The USB driver installation is automatically started.

⇒ An installation confirmation message is displayed.

TIP

Check that the status shows "Ready to use" on the message dialog box.



Step (3)

A0405_04.VSD



CAUTION

Do not connect the same PC to two or more sequence CPU modules using USB cables as only the first connected USB port can be used.

The USB driver of the second and subsequent connected USB ports will not be correctly detected. To rectify the problem, remove and reattach the USB cable.

In addition, you cannot concurrently connect a single PC to two or more sequence CPU modules using a single USB cable.

FA-M3

**Programming Tool WideField3
Introduction and Troubleshooting**

PART-B Advanced User's Manual

IM 34M06Q16-01E 3rd Edition

This manual describes useful functions that will help the user take full advantage of WideField3.

B1. Storing Comments to CPU and Restoring Comments

There are two types of comments: those attached to programs and those attached to devices. The former are circuit comments, subcomments and balloon comments, and the latter are I/O comments.

Circuit comments and subcomments are saved in block and macro files (with file name extensions '.yblk' and '.ymcr'), and balloon comments are saved in balloon comment files (with the file name extension '.yblc'), while I/O comments are saved in tag name definition files (with file name extensions '.ysig' and '.ymcs').

Some CPU types allow comments contained in programs created using WideField3 to be stored in the CPU, and also allow these stored comments to be restored to circuits by online operations (upload, program monitor). Stored comments enable more user-friendly edit operations.

Only the CPU types listed in the table below support stored comments in the CPU.

Table B1.1 CPU Types that Support Stored Comments

CPU Type that Support Stored Comments	Circuit Comments/ Subcomments	I/O Comments	Balloon Comments
F3SP22-0S, F3SP28-3S, F3SP38-6S, F3SP53-4S, F3SP58-6S, F3SP59-7S	✓	✓	
F3SP66-4S, F3SP67-6S	✓	✓	
F3SP71-4N, F3SP76-7N, F3SP71-4S, F3SP76-7S	✓	✓	✓

Other CPU types that are not listed in the above table do not support stored comments. Even for CPU types that support stored comments, comments will not be stored to the CPU if programs are downloaded with the stored comments option disabled.

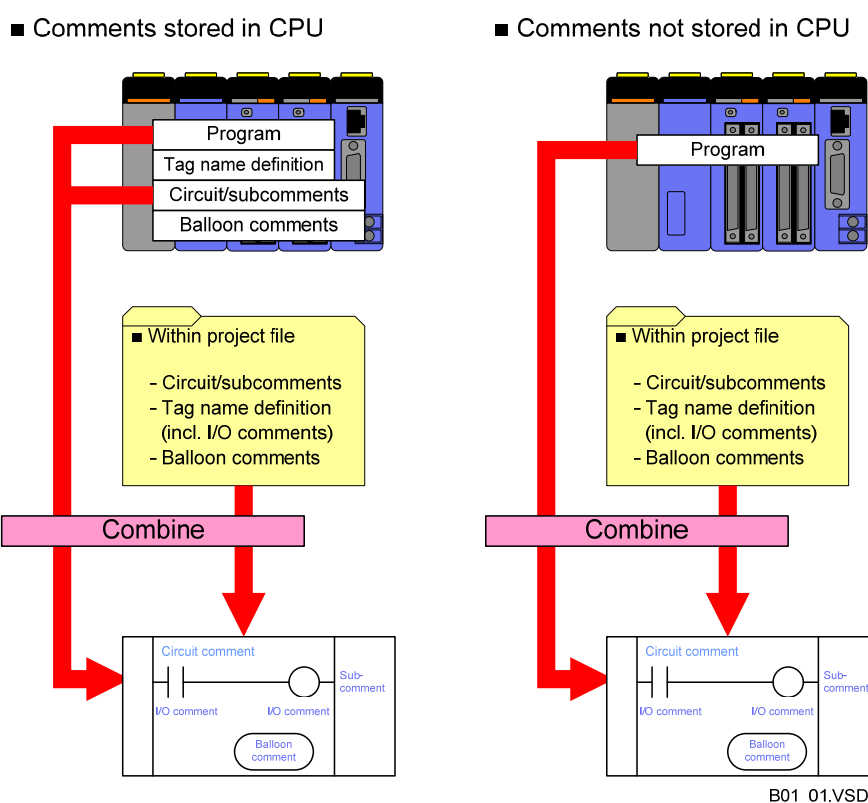
B1.1 Storage of CPU Comments

Comments within programs created in WideField3 are stored in the CPU during download operations. Downloaded comments can be broadly classified into three categories:

- tag name definition and I/O comments
- circuit comments and subcomments
- balloon comments

These comments are restored along with the circuits by WideField3 through upload and program monitor operations.

WideField3 always uses I/O comment data stored with the tag name definition in the project file created on the personal computer regardless of whether I/O comment data is stored in the CPU. If circuit comment and subcomment data is stored in the CPU, WideField3 uses the data for reconstruction on the PC. If not, WideField3 uses the circuit comment and subcomment data saved in the project file for reconstruction (see the figures below).



Comment data that is reconstructed in WideField3 can be modified, added or deleted by online operations (e.g. online edit operations). In some situations (for instance, if the project file is absent in WideField3 or if debug operations are carried out from multiple PCs), however, comment data may become inconsistent between the CPU and the project file.

This chapter describes the various states of stored comment data (the concept of reference for comment integration) and how modified comments are handled in online operations.

B1.1.1 Reference for Tag Name Definition and I/O Comments

Tag name definition and I/O comment data may be stored in the CPU but the data source used for reconstructing comments in WideField3 varies with the operation performed.

Table B1.3 Reference Source for Combining Tag Name Definition and I/O Comments

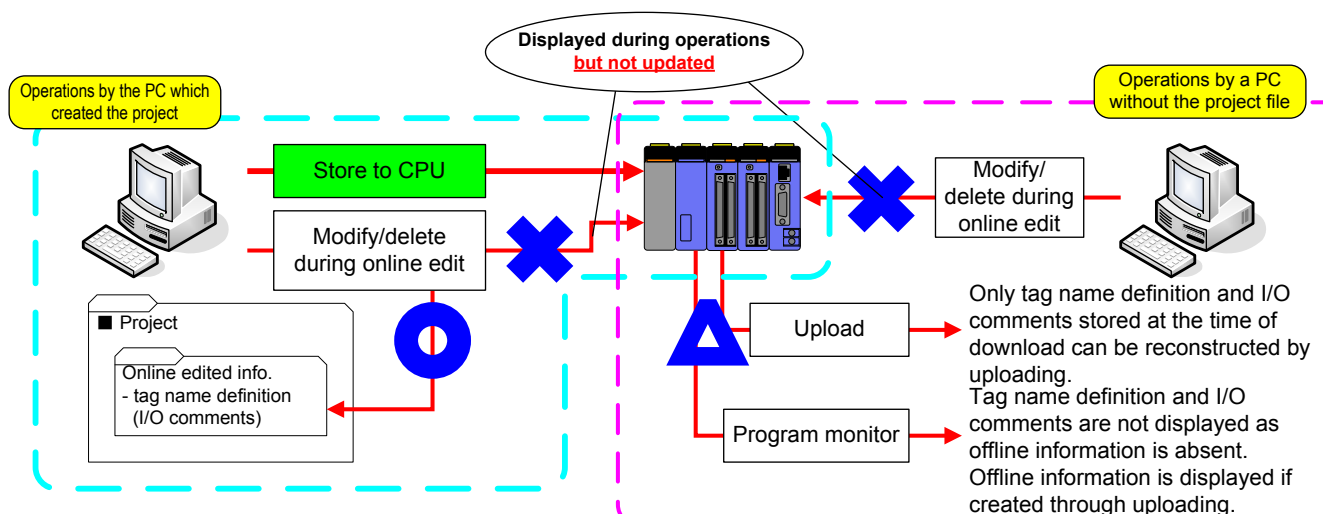
WideField3 Operation	Stored to CPU?	Reference
Upload	Yes	Tag name definition in CPU
	No	Tag name definition in project file ^{*1}
Program monitor	Yes	Tag name definition in project file
	No	Tag name definition in project file

*1: Only for an "overwriting" upload. For an initial upload, no target is referred to.

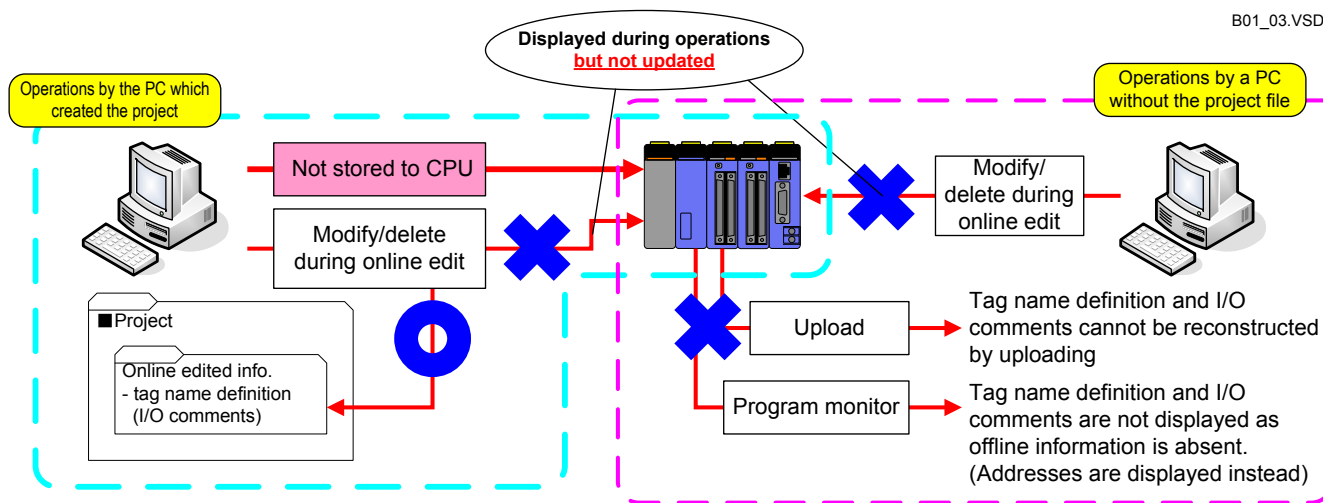
If tag name definition and I/O comment data is stored in the CPU, a user may add to or modify the data in the CPU online edit. The program monitor function, however, makes such changes only to the project file and thus the changes are not reflected in the tag name definition and I/O comment data in the CPU.

In addition, on a PC without the project file, tag name definition and I/O comments are not displayed in the program monitor (the information cannot be reconstructed in the program monitor) unless the program monitor is executed after an upload operation.

It can be seen from this description that if comment data is edited from multiple PCs, data may become inconsistent so it is necessary to keep information in the CPU always up-to-date by downloading or consolidate and use the latest project data.



B01_03.VSD



B01_04.VSD

B1.1.2 Reference for Circuit Comments and Subcomments

Circuit comment and subcomment data can be stored in the CPU as part of the program. If the comment data is stored in the CPU, it can always be reconstructed but beware that if the data is not stored in the CPU, it is reconstructed by combining with project data.

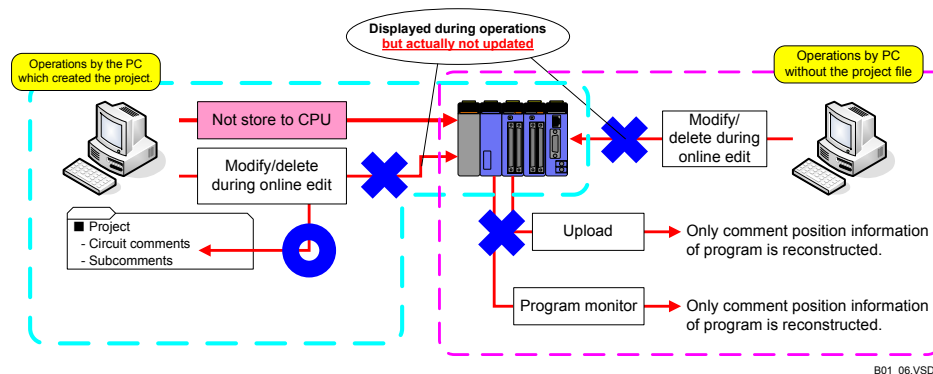
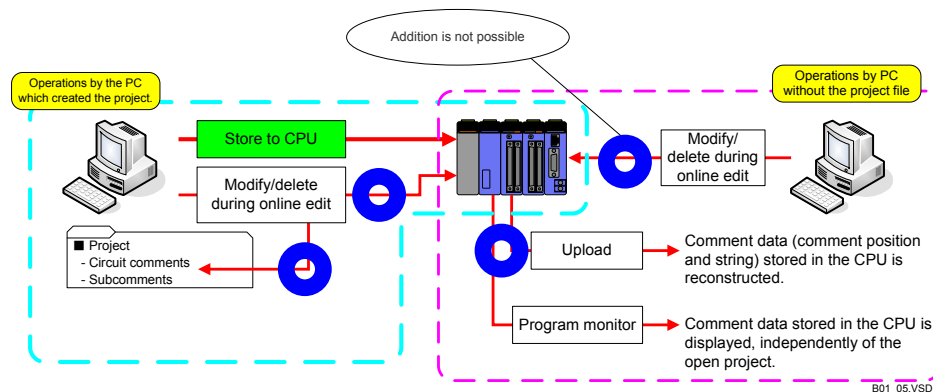
Table B1.4 Reference Source for Combining Circuit Comments/subcomments

WideField3 Operation	Stored to CPU?	Reference
Upload	Yes	Comment data in CPU
	No	Comment data in project file ^{*1}
Program monitor	Yes	Comment data in CPU
	No	Comment data in project file

*1: Only for an "overwriting" upload. For an initial upload, no target is referred to.

If circuit comment and subcomment data is stored in the CPU, data can only be modified or deleted. Addition is not possible. These online edited changes are written immediately to the CPU. In addition, by reflecting the changes to the project file, data integrity can be secured and ensured even if data is being updated from multiple PCs.

If circuit comment and subcomment data is not stored in the CPU, the data is combined with project data and reconstructed so comment data cannot be reconstructed on a PC with no project file.



B1.1.3 Reference for Balloon Comments

You can store balloon comment and monitor data in the CPU. If the data is stored in the CPU, it can be reconstructed but beware that if the data is not stored in the CPU, it is reconstructed by combining with project data.

Table B1.5 Reference for Balloon Comment and Monitor Data

WideField3 Operation	Stored to CPU?	Reference
Upload	Yes	Balloon comment and monitor data in CPU
	No	Balloon comment and monitor data of the project ^{*1}
Program monitor	Yes	Balloon comment and monitor data in CPU
	No	Balloon comment and monitor data at the time of program download

*1: Only for an "overwriting" upload. For an initial upload, no target is referred to.

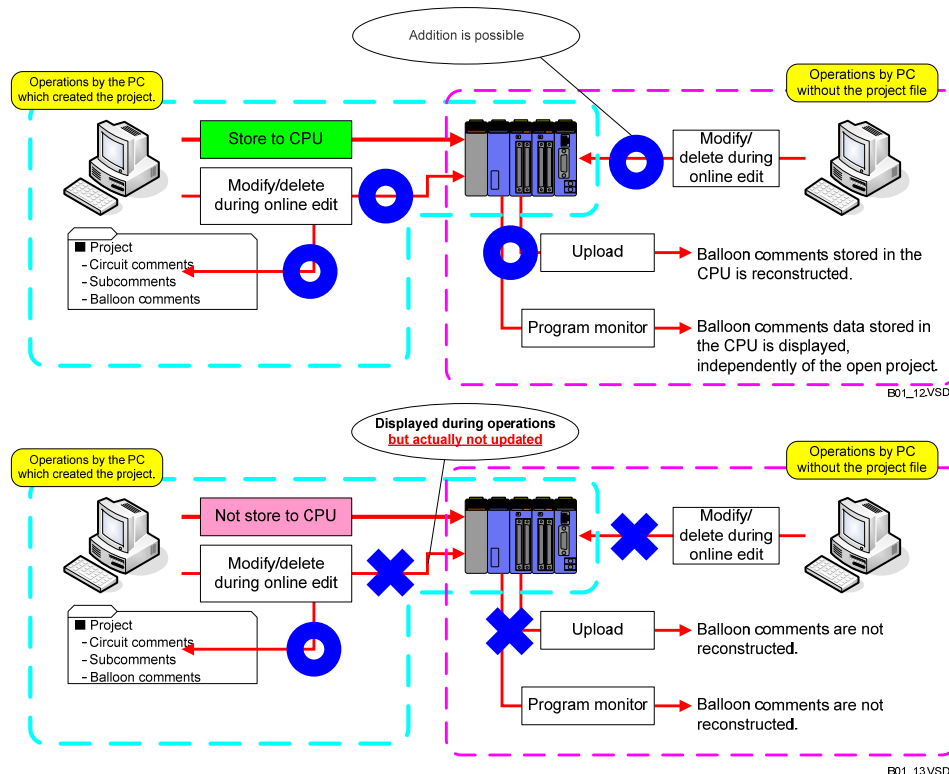
TIP

- The top tree name on the [online] tab of the [Balloon Comment List] window shows whether online balloon comment and monitor data refers to the CPU or the data at the time of program download.
- If the CPU does not store balloons, offline balloon comment and monitor data at the time of the download is referred to immediately after the program is downloaded. If the reference is "(When Downloaded)", online balloon information is updated when the connection is disconnected. Therefore, for the second and subsequent connections, the program monitor shows the online balloon comment and monitor data at the time when the last connection was disconnected.
- If the CPU is not set to store balloon comment and monitor data, online balloon comment and monitor data is not applied to the CPU even when online editing is done.

Regardless of whether balloon comment data is stored in the CPU, data can be modified, deleted and added. However, to write balloon comments to the CPU, online editing or downloading of balloons is required.

In addition, by uploading the changes within the CPU to the offline project file, data integrity between the project file and the CPU can be secured.

If balloon comment and monitor data is not stored in the CPU, balloon comments at the time of the program download are referred to. Therefore, balloon comments cannot be reconstructed on the program monitor on a PC with no project data.



SEE ALSO

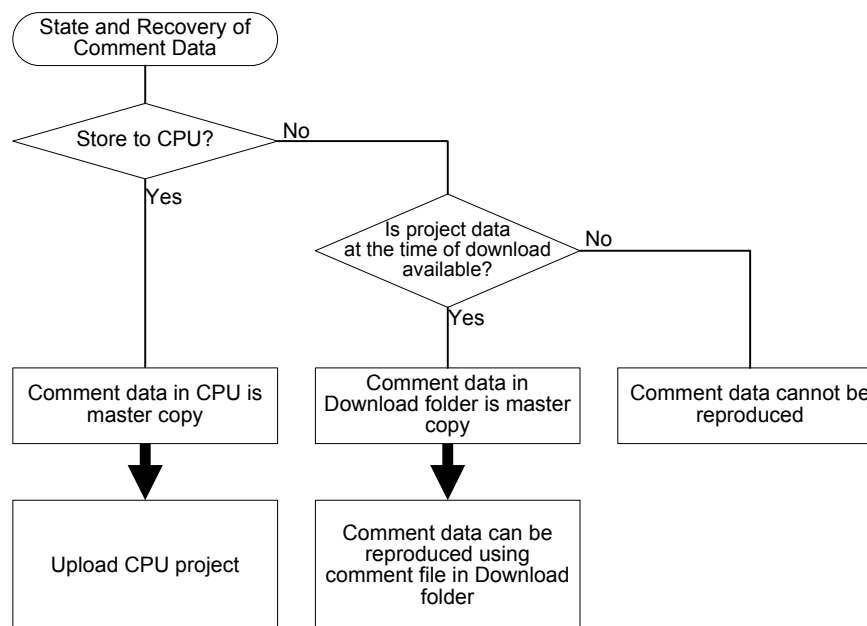
For details on online operations for balloon comments, see Section H9.3, "Online Operation of Balloon Comments" (Online).

B1.2 Integrating Comments

When running WideField3 on multiple PCs, depending on the state of stored comment data in the CPU and the state of offline project data, the master comment data sometimes cannot be constructed for some CPU types.

In such situations, knowing the state of the created comment data will allow you to integrate the comment data, and in the unlikely event that this cannot be done, to restore the data.

The flowchart below shows the measures to be taken under various situations.



B01_09.VSD

As shown in the above figure, if comment data is stored in the CPU, it can be reconstructed by uploading but tag name definition and I/O comment data will be current only as of the most recent download. If tag name definition or I/O comment has been modified only on another PC, those changes cannot be reconstructed by uploading as they were not updated in the CPU.

If comment data is not stored in the CPU, comment data can still be combined and displayed on another PC by making use of data of the project file stored in the Dwnload folder at the time of download. The procedure for restoring comment data from data in the Dwnload folder is described on the next page.

When monitoring a program on a PC other than the PC where the program is created with no comment data stored in the CPU, comments are not displayed. (only position information of comments is stored in the CPU).

Also, balloon comments are not displayed.

However, if project data current as of the time when the project was downloaded to the PC is available, comment data can be reconstructed even on a PC other than the PC where the program is created.

Comment data can be reconstructed by copying block files, macro files (with filename extensions of ".yblk" and ".ymcr"), tag name definition files (with filename extensions of ".ycmn", ".ysig" and ".ymcs"), and balloon comment files (with the filename extension of ".ybld") to the PC where monitoring is to be performed.

The procedure for doing so is given below. For ease of explanation, the PC where the project was created is named personal computer 'A', the personal computer where monitoring is to be performed is named personal computer 'B', and it is assumed that project "AAA" has been downloaded to the FA-M3.

◆ Procedure ◆

- (1) Create a new project on personal computer 'B'.

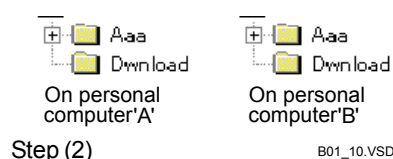
TIP

We recommend that you make the name of a project downloaded to the FA-M3 (i.e., "AAA") the same as the project file name and the project name.

- (2) Find folder "Download" on personal computer 'A' containing the project that was downloaded to the FA-M3, and copy the entire content of the folder to the newly created project folder on personal computer 'B'.

- (3) Open project "AAA" on personal computer 'B' and start monitoring.

⇒ The monitor screen displays programs with comments.



TIP

- In step (2) above, you can also restore comment data by uploading the program to project "AAA" on personal computer 'B'. To restore tag name I/O comments, you can also copy tag name definition files (filename extension '.ysig') directly to the project after uploading.
- To upload the project to personal computer 'A' into a different project, say "CCC", create a new project "CCC" and perform step (2), substituting "personal computer B" with "personal computer A" in the instructions. The comments will be restored after uploading.

SEE ALSO

For details on how to store comments in a CPU, see Chapter H2, "Downloading" and Chapter H9, "Storing Comments and Tag Name Definitions" (Online).

B2. Updating Programs after a Change in the I/O Module Slot Position

You may sometimes need to change the slot position of an I/O module during debugging or trial runs, or add an I/O module. Manually changing all device addresses used in a program in such situations would be a major retrogression in programming. It would also necessitate debugging the entire program all over again. Using the Change I/O Installation Position function allows you to update the programs easily. The function can be used to change terminal numbers such as "X00301", as well as slot numbers in READ/WRITE and HRD/HWR instructions.



CAUTION

- The Change I/O Installation Position function is not applicable to constant names specifying slot numbers in READ/WRITE and HRD/HWR instructions. In this case, modify the relevant constant specification in the constant definition, or change instruction parameters directly.
- The Change I/O Module Installation Position function is not applicable to blocks referring the common library or another project.

The Change I/O Installation Position function changes not only instruction parameters in ladder programs but also tag name definition data.

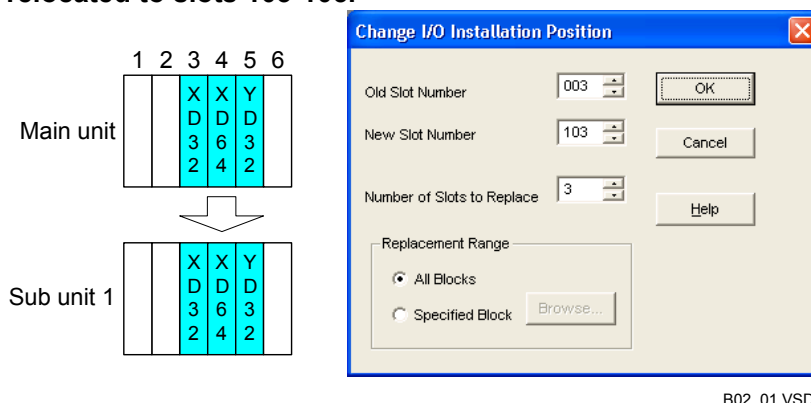
When tag names are used in a ladder program and actual addresses are defined in the tag name definition, you do not need to update the ladder program to correspond to a change in the I/O slot position. It is only necessary to change the actual addresses in the tag name definition.

TIP

Selecting [Project]–[Change I/O Installation Position] from the menu bar does not change I/O installation positions for any blocks that refer to the common library or another project.

B2.1 If I/O Module Slot Positions Are Changed

This section describes how to change the slot position of an I/O module. The following description assumes that I/O modules in slots 003-005 are to be relocated to slots 103-105.



B02_01.VSD

Figure B2.1 Changing I/O Installation Position

The relevant procedure is given below.

◆ Procedure ◆

- (1) Select [Project]–[Change I/O Installation Position] from the menu bar.

⇒ The Change I/O Installation Position dialog box opens.

- (2) Enter the old slot number and the new slot number, and click [OK].

TIP

To relocate more than one I/O module, specify a range for the old and new slot numbers.

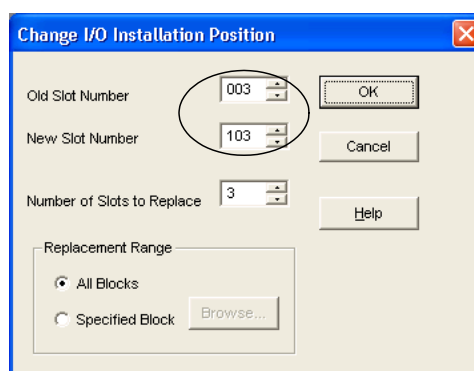
⇒ The "Change I/O Installation Position - Progress" dialog box is displayed, followed by another dialog box which notifies the completion of replacement process.

- (3) Click [OK].

⇒ The notification dialog box closes.

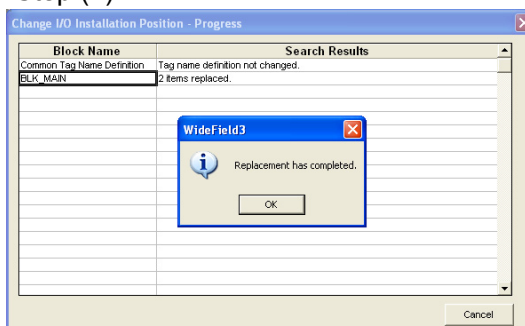
- (4) Check the execution status, and click [Close].

⇒ The "Change I/O Installation Position - Progress" dialog box closes.



Step (2)

B02_02.VSD



Step (3)

B02_03.VSD

B2.2 If an I/O Module is Added

This section describes how to relocate old modules to make room for a new I/O module. The following description assumes that four existing I/O modules are to be relocated from slots 003-006 to slots 004-007 and a new I/O module is to be inserted in slot 003.

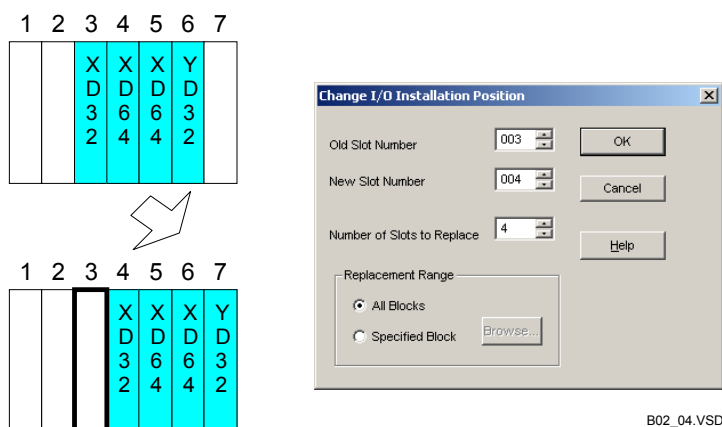


Figure B2.2 Inserting an I/O (Adding an I/O to "003")

The relevant procedure is given below.

◆ Procedure ◆

(1) Select [Project]–[Change I/O

Installation Position] from the menu bar.

⇒ The Change I/O Installation Position dialog box opens.

(2) Enter the old slot number, the new slot number and the number of slots to be shifted, and click [OK].

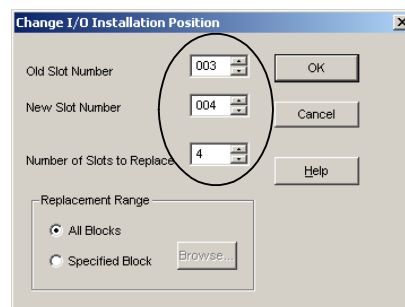
⇒ The "Change I/O Installation Position - Progress" dialog is displayed, followed by another dialog box that notifies the completion of slot replacement.

(3) Click [OK].

⇒ The notification dialog box closes.

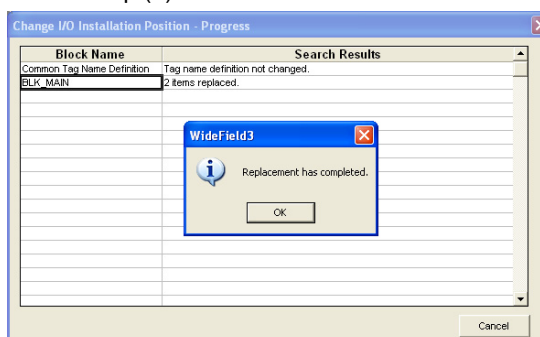
(4) Check the execution status, and click [Close].

⇒ The "Change I/O Installation Position - Progress" dialog box closes.



Step (2)

B02_05.VSD



Step (3)

B02_06.VSD

B2.3 Reusing a Program in a System with a Different I/O Configuration

To reuse part of an existing program in a system with a different I/O configuration, you must update the blocks to be reused. To update selected blocks only, use the following procedure.

◆ Procedure ◆

- (1) Select [Project]–[Change I/O Installation Position] from the menu bar.

⇒ The Change I/O Installation Position dialog box opens.

- (2) Turn on the [Specified Block] option button in the [Replacement Range] group box, and click [Browse].

TIP

The [Specified Block] option button is also available when I/O modules are relocated or a new I/O module is added.

⇒ The Block List dialog box opens.

- (3) Turn on the checkboxes for the blocks to be updated, and click [OK].

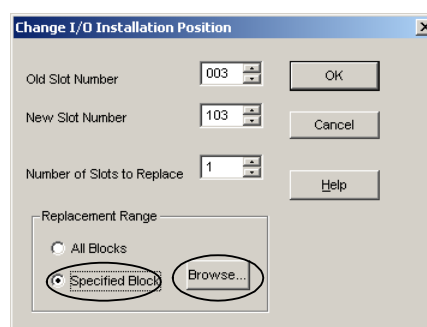
⇒ The Block List dialog box closes and control returns to the Change I/O Installation Position dialog box.

TIP

Blocks referring the common library or other projects cannot be selected. Such blocks are indicated with an "*" after the block name.

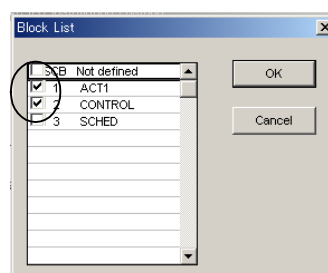
- (4) Click [OK].

⇒ The Change I/O Installation Position dialog box closes. The "Change I/O Installation Position - Progress" dialog box is displayed, followed by a dialog box that notifies the completion of updating.



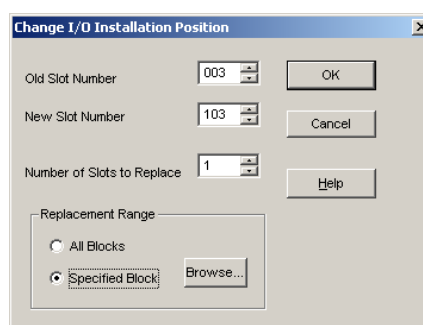
Step (2)

B02_07.VSD



Step (3)

B02_08.VSD



Step (4)

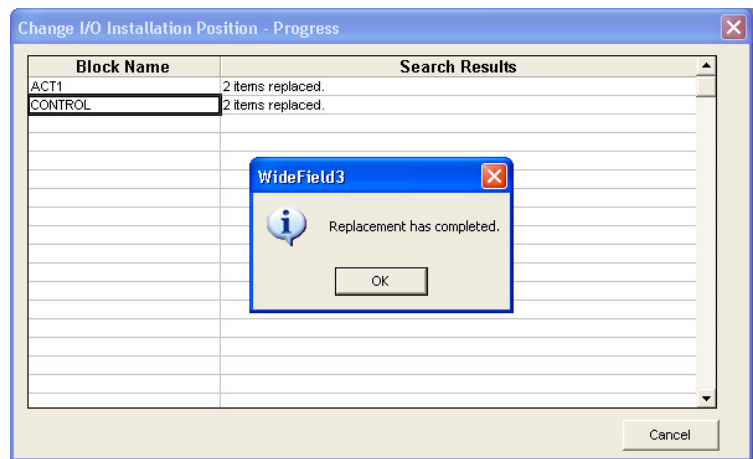
B02_09.VSD

(5) Click [OK].

⇒ The notification dialog box closes.

(6) Check the execution status, and click [Close].

⇒ The "Change I/O Installation Position - Progress" dialog box closes.



Step (5)

B02_10.VSD

B3. How to Rapidly Enter and Modify Instructions and Parameters

WideField3 provides a variety of ways to enter and modify instructions and parameters.

For example, you can write programs by selecting instructions on the instruction palette or Instruction List dialog and entering relevant instruction parameters in the parameter input dialog.

You can also avoid mouse operations by using an interface that allows you to write programs by using only the keyboard. In addition, an input completion function is provided so that a list of instruction or parameter candidates is shown when the first character is entered.

This chapter describes WideField3 functions for writing programs quickly.

This chapter explains how to perform the following operations.

- Setting up how to enter instructions and parameters
- Entering instructions and parameters
- Modifying instructions
- Modifying instruction parameters

B3.1 Setting up How to Enter Instructions and Parameters

In the program edit screen, you can use several ways to enter instructions and parameters. You can customize the use of these functions.

To do this, use the [Circuit Display/Input] tab of the Set up Environment dialog box.

There are two settings related to entering instructions and parameters.

- Instruction/Instruction Parameter Completion
- Parameter Direct Change Input Settings

B3.1.1 Setting up Instruction/Instruction Parameter Completion

When you enter an instruction or instruction parameter, a list of candidates can be displayed just by entering the first character of the desired instruction/instruction parameter.

The procedure to specify whether a list of candidates is displayed in the program edit screen is given below.

◆ Procedure ◆

(1) Select [Tools]-[Set up Environment] from the menu bar.

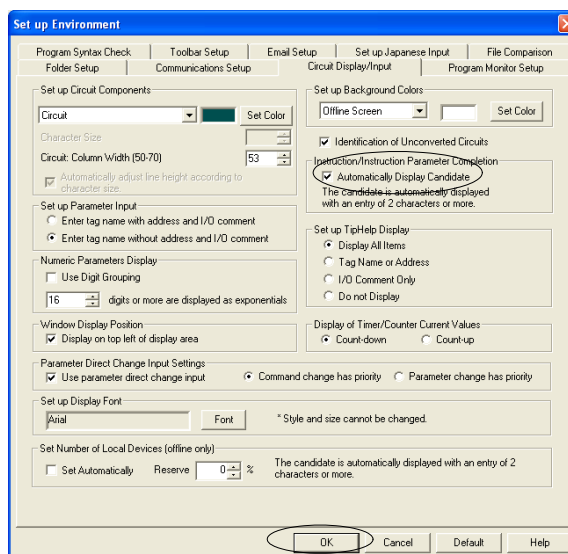
⇒ The Set up Environment dialog opens.

(2) Select the [Circuit Display/Input] tab.

(3) To activate the completion function, turn on the checkbox in the [Instruction/Instruction Parameter Completion] area.

(4) Click [OK].

⇒ The setting is enabled.



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B3.1.2 Setting up Parameter Direct Change Input

You can select how to enter instructions and instructions parameters.

To do this, use [Parameter Direct Change Input Settings] on [Circuit Display/Input] in the Set up Environment dialog.

In [Parameter Direct Change Input Settings], you can select from the following three input methods.

Table B3.1 Input Options Available in [Parameter Direct Change Input Settings]

[Parameter Direct Change Input Settings] Checkbox	Radio Button	Input Operation
ON	Command change has priority	Use keys on the keyboard to enter instructions.
	Parameter change has priority	The keyboard is used for input operation. The cursor position determines whether the instruction or the instruction parameter is modified.
OFF	—	Input operation is performed by selection on the instruction palette, double-clicking an instruction, or selection by the [Enter] key.

As a guideline, turn on the checkbox when the keyboard is mainly used to enter and modify instruction/instruction parameters.

Use the following procedure to customize what input method is selected in the program edit screen when using alphanumeric keys on the keyboard.

◆ Procedure ◆

(1) Select [Tools]-[Set up Environment] from the menu bar.

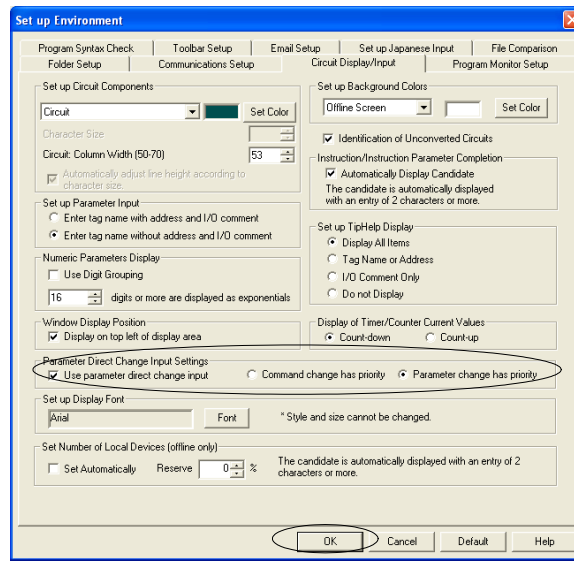
⇒ The Set up Environment dialog opens.

(2) Select the [Circuit Display/Input] tab.

(3) Specify the input method in the [Parameter Direct Change Input Settings] area.

(4) Click [OK].

⇒ The setting is enabled.



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B3.2 Entering Instructions and Parameters

This section describes how to rapidly enter instructions and instruction parameters or modify instruction parameters when editing programs.

This section contains the following three procedures.

- Using mnemonics
- Auto completion of instruction names
- Auto completion of parameter names

B3.2.1 Using Mnemonics

You can enter instructions rapidly by using the alphanumeric keys on the keyboard.

To enter a generic instruction from the keyboard, type its unique mnemonic. As you type a mnemonic, it is automatically converted to the corresponding circuit and displayed.

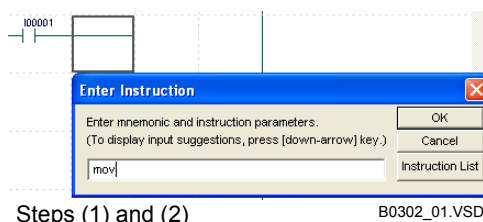
To enter an instruction from the keyboard using the alphanumeric keys, use the following procedure.

◆ Procedure ◆

(1) Place the cursor over the position where an instruction is to be entered.

(2) Enter the instruction from the keyboard.

⇒ When you hit the key for the first character of the instruction, the Enter Instruction dialog box opens.

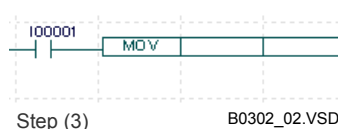


Steps (1) and (2)

B0302_01.VSD

(3) Enter the remaining characters of the instruction and click [OK].

⇒ The instruction is inserted and displayed.



Step (3)

B0302_02.VSD

SEE ALSO

For details of mnemonics, see "Sequence CPU – Instructions."

■ Using Mnemonics for Entering Contacts A and B

To enter contacts (contact A or contact B), you may use different instructions for different circuit configurations as follows.

● Entering LD (LDN) or AND (ANDN) Instructions

To insert a contact at the beginning of a circuit or as an input condition serial to the previous input condition, use a LD (LDN) or AND (ANDN) Instruction. When used as an input instruction, the LD (LDN) and AND (ANDN) Instructions have the same effect.

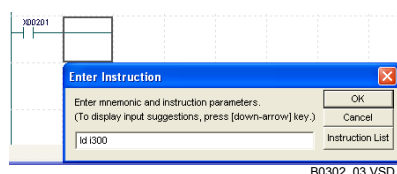


Figure B3.1 Entering a LD Instruction

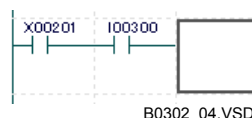


Figure B3.2 Screen Display after a LD Instruction Is Entered

● Entering OR (ORN) Instructions

To insert a contact as an input condition parallel to the previous input condition, use an OR (ORN) instruction. A vertical connection line is automatically drawn to the right of the inserted contact.

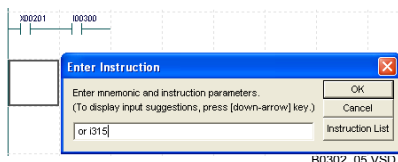


Figure B3.3 Entering an OR Instruction

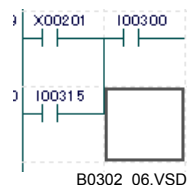


Figure B3.4 Screen Display after an OR Instruction Is Entered

To edit connection lines, use the function keys and special keys as connection lines has no mnemonics. The following function keys are available for editing connection lines.

Table B3.2 Entering and Deleting Connection Lines

	Input	Deletion
Vertical line	[F8], [V], [I] keys	Shift+F8
Horizontal line	[F9], [-] keys	Delete
Continuation line	[Shift]+[F9], [>], [<] keys	Delete

B3.2.2 Auto Completion of Instruction Names

In the Enter Instruction dialog of the program edit screen, you can use this function to show a list of instructions starting with the character you have entered. From the list, you can select and enter a desired instruction.

SEE ALSO

For details on how to set up the input completion function, see Section B3.1.1, "Setting up Instruction/Instruction Parameter Completion."

◆ Procedure ◆

(1) Move the position cursor to where an instruction is to be inserted.

(2) Type the instruction from the keyboard.

⇒ When you hit the key for the first character of the instruction, the Enter Instruction dialog box opens.

(3) Enter the second character.

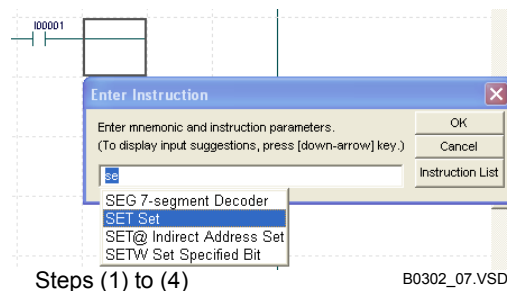
⇒ A list of instructions appears, showing the instructions that start with the first two characters entered.

(4) Use the cursor to select the instruction to be entered, and press the [Enter] key to confirm the selection. After the instruction is entered into the instruction input field, click [OK].

⇒ The instruction is inserted and displayed. After selecting an instruction, you can proceed to entering its instruction parameters.

SEE ALSO

After the first character is entered, you can press the [↓] key to display a list of instructions.



B3.2.3 Auto Completion of Instruction Parameter Names

In the Enter Instruction dialog of the program edit screen, you can use this function to show a list of tag names or addresses starting with the character you have entered. From the list, you can select and enter a desired tag name or address.

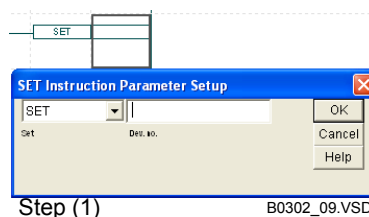
SEE ALSO

For details on how to set up the input completion function, see Section B3.1.1, "Setting up Instruction/Instruction Parameter Completion."

The following describes operation when [Instruction/Instruction Parameter Completion] is enabled on the [Circuit Display/Input] tab of the Set up Environment dialog box.

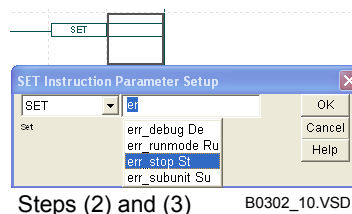
◆ Procedure ◆

- (1) Enter an instruction, or select an instruction of which the parameter is to be changed, to display the Enter Instruction or instruction parameter setup dialog.



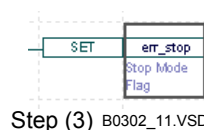
- (2) Enter the first two characters of the parameter to be entered.

⇒ A list of tag names/addresses starting with the entered two characters appears.



- (3) Select a parameter and press the [Enter] key.

⇒ The parameter is entered.
For instructions with multiple parameters, this procedure can be repeated to enter additional instruction parameters by separating each of them with a space.



SEE ALSO

When entering an instruction parameter, you can select to use the [↓] key, instead of entering any character, to display tag names/address and select one of them.

B3.3 Modifying Instructions

When editing a program, you can change only an instruction without changing the parameters.

This section describes the following procedures.

- Modifying contact instructions
- Modifying application instructions
- Modifying the property (long-word, pulse, etc.) of application instructions

B3.3.1 Modifying Contact Instructions

To invert a contact A into a contact B or vice versa, or invert an OUT coil into an OUTN coil or vice versa, you need not re-enter the instruction parameters.

There are two ways to do so: firstly, by entering only the new instruction mnemonic and inheriting the parameters of an existing instruction and secondly, by inverting the instruction using special keys.

● Modifying Instructions by Entering Mnemonics

Place the cursor over the instruction to be modified, and enter a new mnemonic.

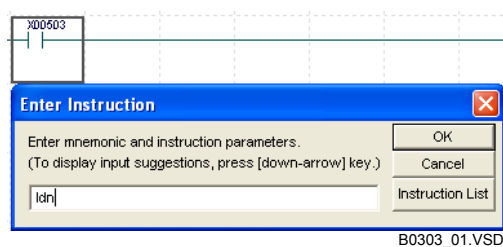


Figure B3.5 Changing a Contact A into a Contact B

● Modifying Instructions by Using Special Keys

Place the cursor over the instruction to be modified, and press [Ctrl] + [M]. The table below lists instruction pairs, which can be inverted.

Table B3.3 Inverting Instructions by [Ctrl] + [M]

Instruction Pairs for Inversion	
Contact A	Contact B
OUT instruction	OUTN instruction
SET instruction	RST instruction
DIFU instruction	DIFD instruction
LDU instruction	LDD instruction
UP instruction	DWN instruction
UPX instruction	DWNX instruction

B3.3.2 Modifying Application Instructions

When changing between similar instructions (such as from BMOV to BSET and from BIN to BCD), you do not need to re-enter the instruction parameters. In this case, you modify an instruction by specifying a new mnemonic for the existing instruction.

This functions when [Parameter Direct Change Input Settings] is enabled and [Command change has priority] is also selected on [Circuit Display/Input] in the Set up Environment dialog box.

Place the cursor over the instruction to be modified and enter a new mnemonic.

In the Enter Instruction dialog, you have to enter the mnemonic. Then press the [Enter] key.

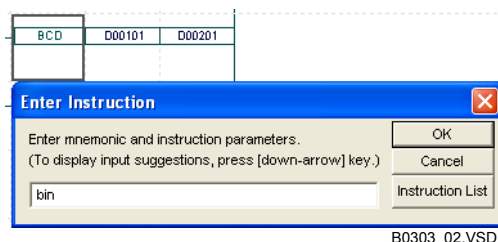


Figure B3.6 Changing BIN Instruction into BCD Instruction

B3.3.3 Modifying the Property of an Application Instruction

Application instructions have long-word, pulse and other versions, in addition to the standard word version.

There are two ways to change a standard instruction to its long-word or pulse version, or vice versa: by using the instruction parameter setup dialog or by using special keys.

● Modifying the Property Using the Instruction Parameter Setup Dialog

Double-click an instruction to be modified, or place the cursor over the instruction and press the [Enter] key. From the drop-down list in the displayed instruction parameter setup dialog box, select the desired instruction version using the arrow keys.

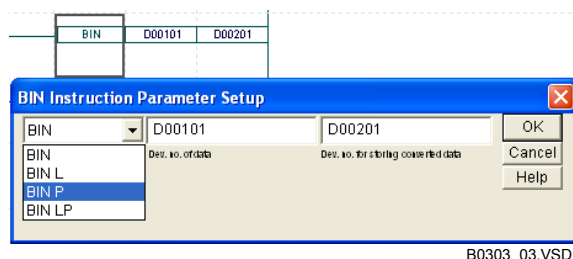


Figure B3.7 Changing the Property of an Instruction

● Modifying the Property Using Special Keys

Place the cursor over the instruction to be modified and press the special key. The table below lists the properties that can be inverted along with their special keys.

Table B3.4 Inverting Instruction Property

Property	Special Keys
Long word<->word instruction	[Ctrl]+[L]
Pulse<->execute-while-on instruction	[Ctrl]+[P]

TIP

There is no special key for inverting the double-long-word instruction.

B3.4 Modifying Instruction Parameters

WideField3 provides a function that assists the users in rapidly modifying instruction parameters during program editing.

This section describes the following procedures.

- Modifying only addresses and constants
- Modifying instruction parameters including the device types

B3.4.1 Modifying Only Addresses and Constants

You can modify instruction parameters simply by entering numbers.

In this case, the existing device type specified to the instruction parameters is inherited.

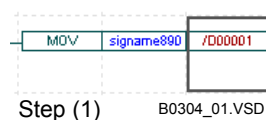
The following explanation applies when [Parameter Direct Change Input Settings] is enabled and [Parameter change has priority] is also selected on [Circuit Display/Input] in the Set up Environment dialog box.

SEE ALSO

For details on how to set up the direct parameter modification input function, see Section B3.1.2, "Setting up Parameter Direct Change Input."

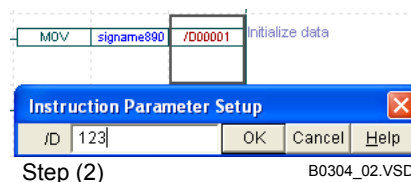
◆ Procedure ◆

- (1) Place the cursor over the instruction parameter to be modified.



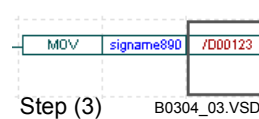
- (2) Enter numbers from the keyboard.

⇒ Entering a number displays the Instruction Parameter Setup dialog box with the device type fixed. Enter the remaining numbers.



- (3) When you finish entering all of the required information, press the [Enter] key.

⇒ The instruction parameter is modified.



B3.4.2 Modifying Instruction Parameters Including the Device Types

You can modify instruction parameters simply by entering device numbers.

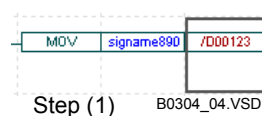
The following explanation applies when [Parameter Direct Change Input Settings] is enabled and [Parameter change has priority] is also selected on [Circuit Display/Input] in the Set up Environment dialog box.

SEE ALSO

For details on how to set up the direct parameter modification input function, see Section B3.1.2, "Setting up Parameter Direct Change Input."

◆ Procedure ◆

- (1) Place the cursor over the instruction parameter to be modified.



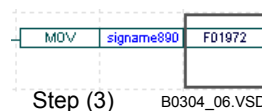
- (2) Enter the desired device type using the alphanumeric keys.

⇒ In the displayed instruction parameter setup dialog box, enter the remaining characters of the address.



- (3) When you finish entering all of the required information, press the [Enter] key.

⇒ The instruction parameter is modified.



B4. How to Use Customization Effectively

WideField3 allows for customization of program editing, monitor display and other functions to meet specific needs and preferences of the users.

You can customize these functions from the tool menu, the Setup Environment dialog, and similar screens. Customization affects either the entire WideField3 software, a single project, or a specified file, depending on what setting is customized.

You can use customization effectively to set up a convenient operating environment to suit your own needs.

You can customize the functions shown below.

For details of these functions and how to set them up, see sections given in the "SEE ALSO" column.

Table B4.1 List of Customizable Functions

	Settings	Menu or Dialog	SEE ALSO(*)
Entire WideField3 software	Assignment of shortcut keys	[Tools]-[Customize Keys]	OF D1.4
	Items displayed on the toolbar	[Set up Environment]-[Toolbar Setup]	OF D1.2.7
	Project window display	[Set up Environment]-[Folder Setup]	OF D1.2.2
	Project folder setting	[Set up Environment]-[Folder Setup]	OF D1.2.2
	Program syntax check level setting	[Set up Environment]-[Program Syntax Check]	OF D1.2.6
Editing functions	Circuit component display setting	[Set up Environment]-[Circuit Display/Input]	OF D1.2.4
	Background color setting	[Set up Environment]-[Circuit Display/Input]	OF D1.2.4
	Modified line identification display setting	[Set up Environment]-[Circuit Display/Input]	OF D1.2.4
	Instruction/parameter input completion	[Set up Environment]-[Circuit Display/Input]	OF D1.2.4
	Setting for entering an address with an I/O comment	[Set up Environment]-[Circuit Display/Input]	OF D1.2.4
	Direct parameter modification input setting	[Set up Environment]-[Circuit Display/Input]	OF D1.2.4
	Parameter TipHelp display	[Set up Environment]-[Circuit Display/Input]	OF D1.2.4
	Numerical digit grouping display setting	[Set up Environment]-[Circuit Display/Input]	OF D1.2.4
	Window initial display position setting	[Set up Environment]-[Circuit Display/Input]	OF D1.2.4
	Display font setting	[Set up Environment]-[Circuit Display/Input]	OF D1.2.4
	Number of local devices	[Set up Environment]-[Circuit Display/Input]	OF D1.2.4
	Displaying or hiding I/O comments	[View]-[Display I/O Comment]	OF E1.5
	Switching to 2-line parameter display	[View]-[Display (Expanded) Instruction Parameter]	OF E1.5
	Emphasized display of write parameters (in bold font)	[View]-[Display (Expanded) Instruction Parameter]	OF E1.5
	Escape sequence display	[View]-[Display (Expanded) Instruction Parameter]	OF E1.5
	Instruction number display	[View]-[Display Instruction Number]	OF E1.5
	Address display	[View]-[Display Address]	OF E1.5
	I/O comment display switching	[Project]-[I/O Comment Display Settings]	OF E2.8
Monitor functions	Tag Name Definition Monitor display style	Tag Name Definition Monitor window	ON J4.3
	Advanced Function Module Register Monitor display/comment setting	[Online]-[Adv. Function Module Register Monitor]	ON J3.6.2
	Data change indication	[View]-[Display (Expanded) Instruction Parameter]	ON J2.3.8
	Current timer/counter value display	[Set up Environment]-[Circuit Display/Input]	OF D1.2.4
	Prohibition of concurrent opening of the block and monitor windows	[Setup Environment]-[Program Monitor Setup]	OF D1.2.5

(*) OF: Offline, ON: Online

B4.1 Displaying and Hiding Confirmation Messages

You can hide confirmation messages that would otherwise be displayed when performing WideField3 operations.

To do this, turn on the [Do not ask again] checkbox in the displayed confirmation dialog box.

You can also reset this setting to allow hidden confirmation messages to appear again.

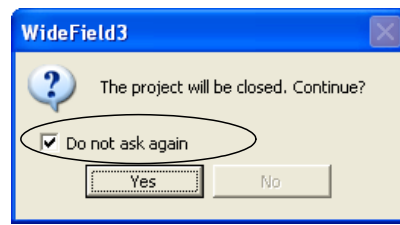
■ Hiding a Confirmation Message

◆ Procedure ◆

- (1) Perform a WideField3 operation that will cause a confirmation message box to be displayed.

⇒ A confirmation message with the [Do not ask again] checkbox is displayed.

- (2) Turn on the [Do not ask again] checkbox and click [Yes].



Step (2)

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⇒ The operation is performed. The confirmation message does not appear for the same operations in the future.

■ Redisplaying Confirmation Messages

◆ Procedure ◆

- (1) Select [Tools]-[Display Hidden Message Dialog Boxes] from the menu bar.

⇒ Confirmation messages are set to be displayed again.

TIP

If you have set multiple message dialogs to be hidden, selecting [Display Hidden Message Dialog Boxes] affects all the messages, allowing them to appear again.

B5. How to Use Component Macros Effectively

Macros may be classified according to their uses into two types.

- Instruction macros
- Function macros

The method for creation and invocation is the same for both macro types. To create a macro, select [File]–[New] from the menu bar, select [Macro] in the displayed New dialog box and edit the macro in the same way as editing a block. To call a macro, use the MCALL instruction.

Table B5.1 Two Types of Macros

Type	Characteristics	Uses
Instruction macro	Completes execution in a single scan.	Used in the same way as MOV, CAL, and other standard instructions.
Function macro	Completes execution in multiple scans.	Used to control sophisticated I/O instruments or complicated operations.

Macros can be shared among users, but should not use devices that are used by other blocks or macros. We describe below how to use devices effectively in macros.

● When Using Instruction Macros

Ensure that the devices used in a macro are not used by other blocks. As an instruction macro completes its execution in a single scan, devices of such macros may be shared with other macros.

Macros may use special devices (A, H, and U), not available to blocks.

By using these special devices (A, H, and U), you can safely avoid device overlap problems.

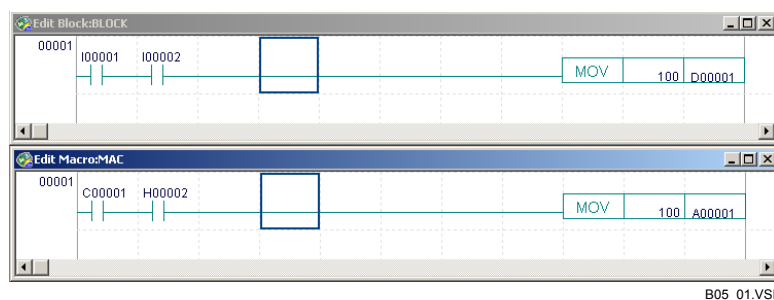


Figure B5.1 Distribution of Devices between Blocks (upper) and Macros (lower)

● When Using Function Macros

Ensure that devices used in a macro are not used by other blocks or macros.

While you can avoid sharing devices with other blocks by using the special A, H, and U devices, if two or more macros are executed in the same scan, the latter macros may inadvertently overwrite contents of the A, H, and U devices stored by earlier macros.

In this case, you can use local devices (/I, /D, /B, /F, /T and /C) instead. As local devices can be used independently of each other even if they have the same address, their data is assured until a macro completes execution, even if the execution requires multiple scans.

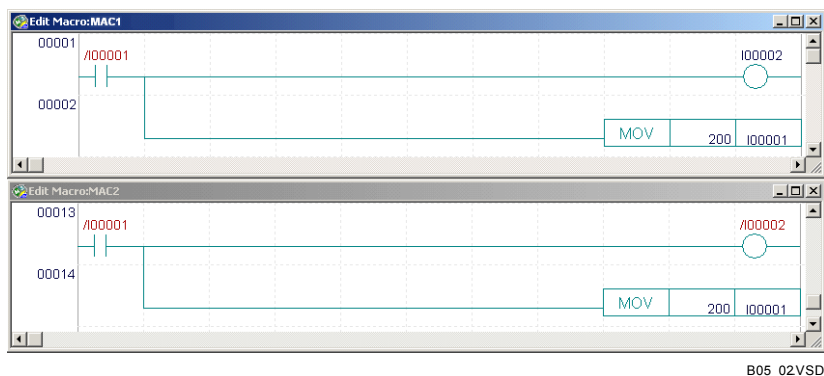


Figure B5.2 Distribution of Devices between Macro 1 (upper) and Macro 2 (lower)



CAUTION

When using local devices in function macros, note the following precautions. If the same macro must be used in multiple locations, change the name of the macro. As local devices are allocated on a macro basis, calling the same macro in multiple locations causes device overlaps during execution.

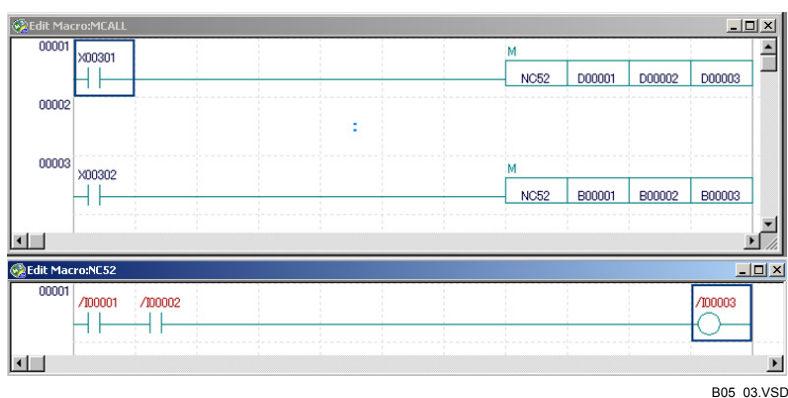


Figure B5.3 Example of Improper Use of the Same Macro at Multiple Locations

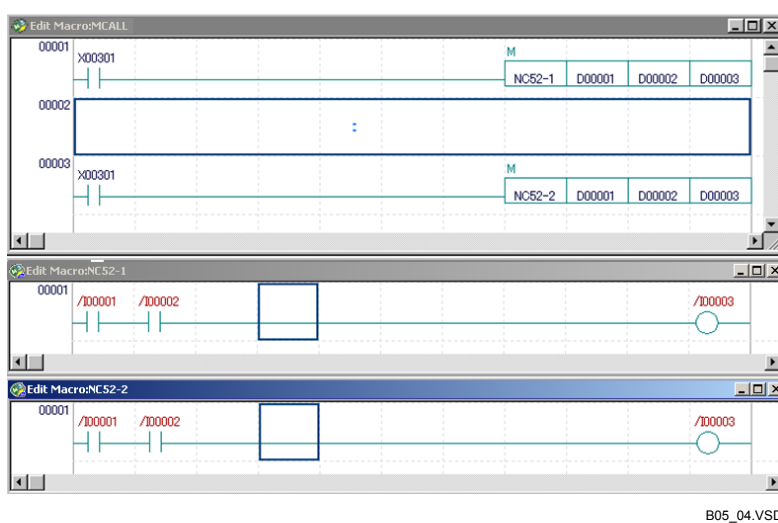


Figure B5.4 Example of Proper Use of the Same Macro at Multiple Locations

● When Invoking a Single Function Macro from Multiple Locations

If a macro completes execution in multiple scans, make sure that the device data to be used by the macro is assured in the invoking block so that the assured data is provided to the macro for each scan. This way, the data can be kept independent of the other invokers.

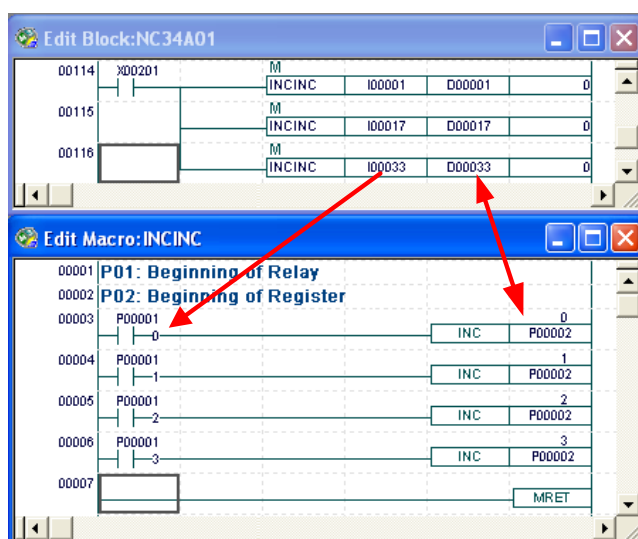
In this case, all the data used by a macro program across multiple scans should be created at the pointer register (P).

Conversely, devices A, H and U can be used for data not used by multiple scans.

● How to Pass Large Amounts of Device Data to a Macro

When you have to pass a large amount of data to a macro, pass an address at the beginning of a data area of undetermined size to the macro as a macro argument. The macro indexes the pointer register (P) and processes the indexed and subsequent addresses from the device specified in the argument. This enables a single argument to pass a large amount of device data.

In this case, you should write a program that indexes the pointer register in the macro program. Be careful when specifying the data ranges covered by the macro.



Device ranges passed to the macro

I00001 ~ I0004	D00001 ~ D0004
I00017 ~ I0020	D00017 ~ D0020
I00033 ~ I0036	D00033 ~ D0036

This macro does not save the data.

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Figure B5.5 Invoking Macros (lower) from Blocks (upper) by Specifying Pointers as Beginnings of Devices

B6. Collaborative Program Development

WideField3 provides an environment that allows collaborative program development by multiple developers. A program to be developed may be divided by function into blocks, which are then assigned to different developers. Each developer creates and tests blocks independently which are then combined in an integration test.

The development procedure is described below.



CAUTION

If another personal computer downloads a program to the same CPU that is connected online to WideField3 on your personal computer, WideField3 may no longer operate normally. In this case, disconnect your WideField3 from the CPU by selecting [Online]–[Disconnect], and then reconnect to the CPU by selecting [Online]–[Connect] from the menu bar.

- A

List data items to be shared among blocks. Classify the devices into global and local areas according to the number of such data items.

Allocate addresses of global devices (e.g., D00001) to data items to be shared among blocks.

Use local devices (e.g., /D00001) for data items that are to be used only within a block.

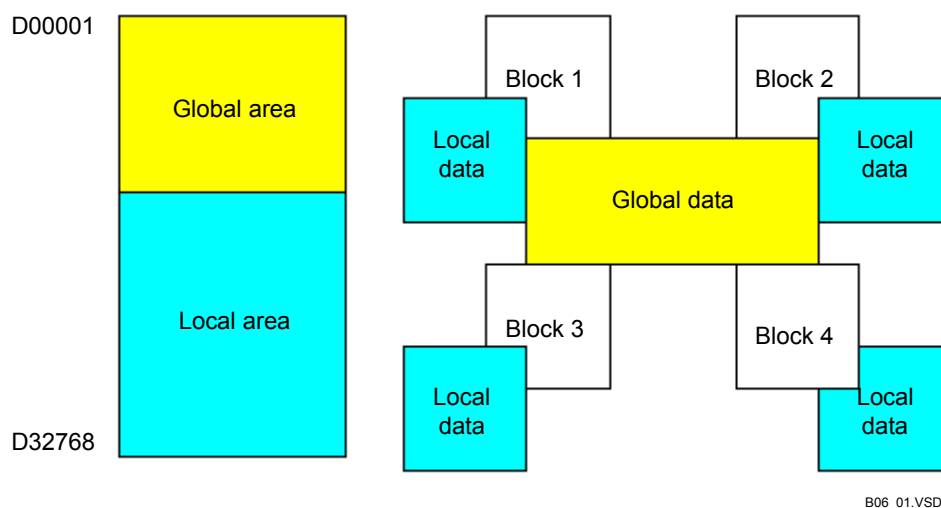


Figure B6.1 Global and Local Areas

- B

Create a new common project for all blocks. Perform common setup that applies to all blocks, including project setup/configuration, common tag name definition, constant definition, user log messages. In the project setup/configuration, set up the global and local areas as determined in step A above.

- C
Each developer creates his own new project, and writes into it the project setup/configuration and user log messages created in step B above. He may manually re-enter the data from the keyboard, or simply copy the data using Windows Explorer.

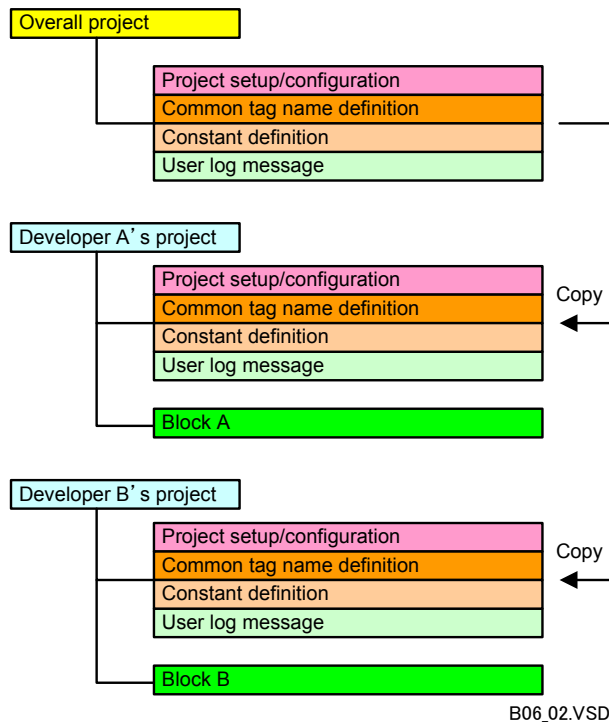


Figure B6.2 Common Project and Block-specific Projects for Each Developer

- D
Each developer creates blocks assigned to him and creates dummy interface blocks to test and debug interfaces with other blocks.
- E
Each developer transfers his blocks to the FA-M3 and debugs them. After finishing debugging of a block, he writes it to the common project created in step B by selecting [Project]–[Insert File] from the menu bar, or using the Windows Explorer function.
- F
Combine all debugged blocks in the common project, and transfer the project to the FA-M3. Perform integration tests to debug the entire project.
- G
During the integration test, multiple developers may perform debugging, as well as perform online-editing on the same CPU concurrently.

**CAUTION**

To transfer the online-edited data to the CPU, first convert the program by selecting [Edit]–[Convert] from the menu bar, and then exit online editing by selecting [Debug/Maintenance]–[End Online Editing] from the menu bar.

While a developer is transferring his online-edited data to the CPU, other developers cannot convert their programs, or exit online editing in WideField3.

When multiple developers are online-editing a program concurrently, it is important to know that once a developer transfers his online-edited changes to the CPU, the existing program in the CPU will no longer be the same as the programs currently edited by the other developers.

When multiple developers are online-editing a program concurrently, only the first developer who stores balloons in the CPU can continue to do so. Note that for the other developers to store balloons later, they must first reload balloons from the CPU.

B7. Advanced Editing of Component Blocks

WideField3 has a newly added [Project Settings/Configuration] function. In addition to the configuration of an entire project and definition of CPU settings, this function enables comprehensive setup of various aspects of projects, including the properties and protection setting of blocks that configure projects, the settings for storing tag name definitions to the CPU, and the maximum number of tag name definitions allowed.

This chapter describes useful functions found in the Project Settings/Configuration window, including:

- Function related to reuse of blocks
- Function related to registration of component blocks
- Function related to the settings of common tag name definitions and block properties

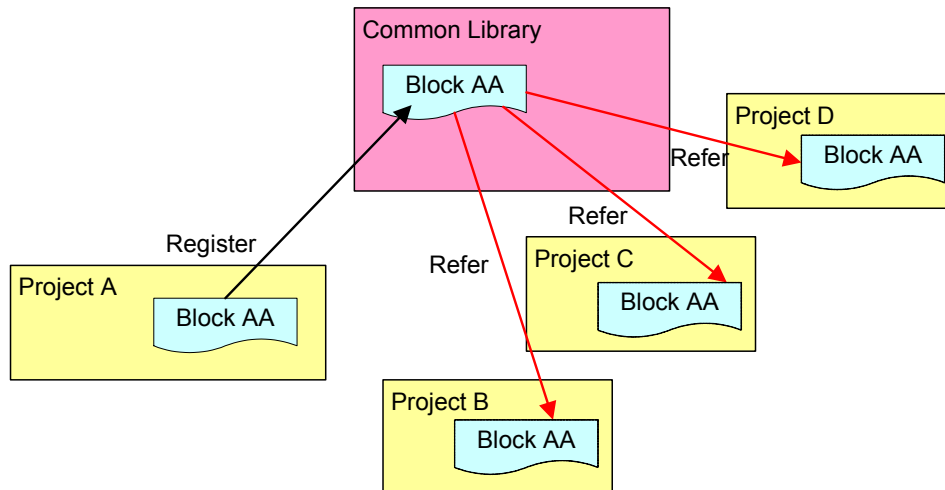
B7.1 Reuse of Blocks

WideField3 has a variety of functions that facilitate reuse of programs. This section describes the following topics.

- Registering blocks to the library
- How to use the common library
- How to use blocks stored in other projects

B7.1.1 Registering to the Library

Blocks created for a project can be easily shared by other projects by "registering" the blocks to the common library.



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Figure B7.1 Overview of Common Library

■ Common Library Folder

The common library folder is a location where blocks referred to by multiple projects are stored. This folder can be set up on the [Folder Setup] tab of the Set up Environment dialog box.

SEE ALSO

For details on the common library folder settings, see Section D1.2.2, "Folder Setup" (Offline).

■ Registering to the Library

The procedure for registering blocks to the common library is given below.

◆ Procedure ◆

- (1) In the Project Settings/Configuration window, select [Executable Program Settings]-[Execution Block Components] in the tree.

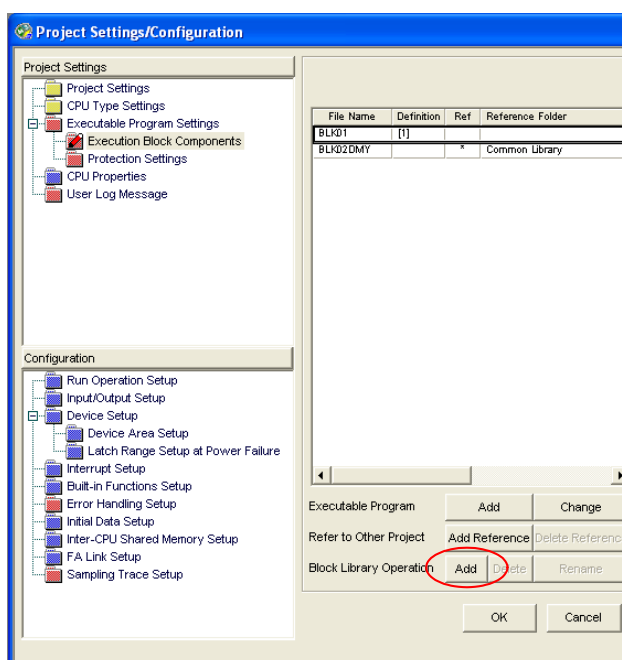
SEE ALSO

For details on how to open the Project Settings/Configuration window, see Section D3.1, "Building a Project" (Offline).

⇒ The Execution Block Components screen appears.

- (2) Select a block to be registered to the common library, and click [Add] in the [Block Library Operation] area.

⇒ A confirmation dialog box appears.



Step (2)

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- (3) Click [Yes].

⇒ The specified block is registered to the common library.

TIP

If a block with the same name is already present in the common library, a warning message is displayed. To overwrite the block, click [OK]. To cancel the operation, click [Cancel].



Step (3)

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B7.1.2 Using Blocks in the Common Library Folder

Any project can use blocks stored in the common library folder.

◆ Procedure ◆

- (1) In the Project Settings/Configuration window, select [Executable Program Settings]-[Execution Block Components] in the tree.

SEE ALSO

For details on how to open the Project Settings/Configuration window, see Section D3.1, "Building a Project" (Offline).

⇒ The Execution Block Components screen appears.

- (2) Blocks registered to the common library are displayed. Select a block to be used by the project, and click [Add] in the [Executable Program] area.

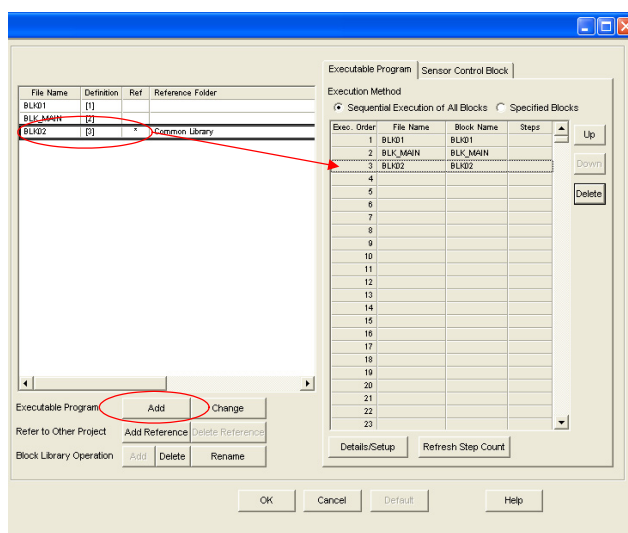
⇒ The selected block is registered to the executable program.

TIP

An "*" in the [Ref] column indicates the block is referred to by another project.

TIP

The same procedure applies when registering blocks in reference folders.



Step (2)

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B7.1.3 Using Blocks of Other Projects

Specifying the project folder of another project as reference folder allows blocks of the project to be used.

◆ Procedure ◆

- (1) In the Project Settings/Configuration window, select [Execution Block Components] in the tree.

SEE ALSO

For details on how to open the Project Settings/Configuration window, see Section D3.1, "Building a Project" (Offline).

⇒ The Execution Block Components screen appears.

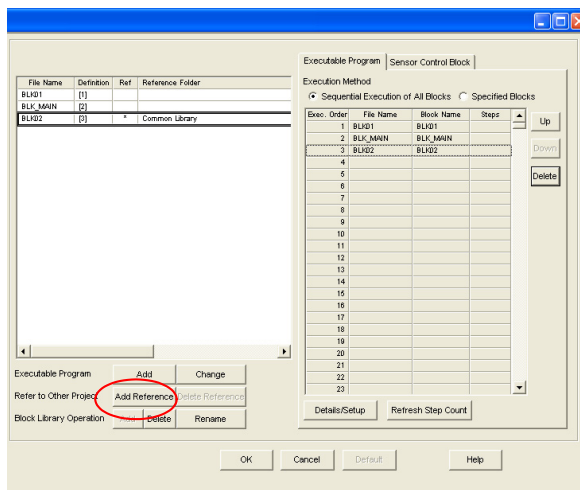
- (2) Click [Add Reference].

⇒ The Folder Selection dialog appears.

- (3) Select the folder of the project to be referred to, and click [OK].

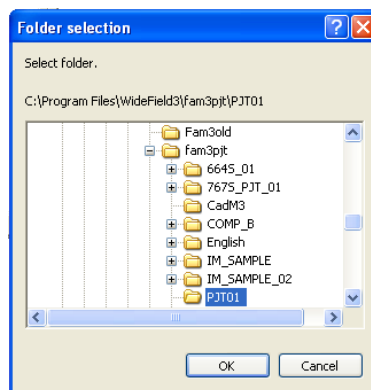
⇒ The blocks of the selected project are added to and displayed in the block list.

- (4) Select a block to be used by the current project, and click [Add] in the [Executable Program] area.



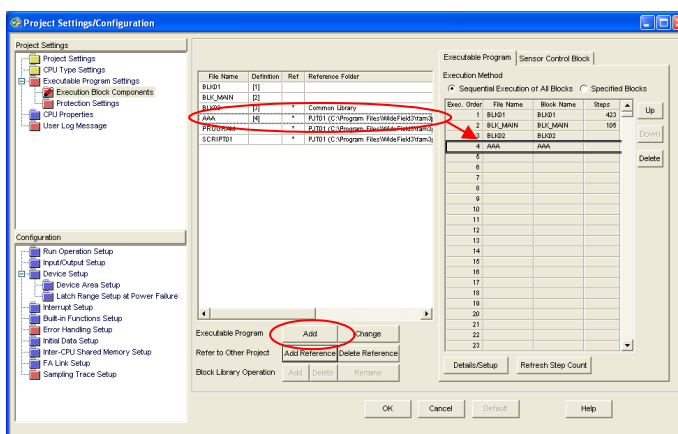
Step (2)

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Steps (2) and (3)

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Step (4)

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B7.2 Effective Way of Using Executable Program Settings

Settings applied to blocks can be changed together from executable program settings.

This section describes the following topics.

- Block protection
- Changing common tag name definition settings
- Changing block settings

B7.2.1 Block Protection

You can select a block from the block list and set a password to the block.

◆ Procedure ◆

- (1) In the Project Settings/Configuration window, select [Protection Settings] in the tree.

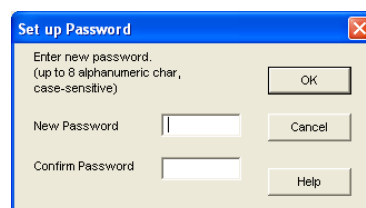
SEE ALSO

For details on how to open the Project Settings/Configuration window, see Section D3.1, "Building a Project" (Offline).

⇒ The Protection Settings screen appears.

- (2) Double-click the block.

⇒ The Set up Password dialog appears.



Step (2)

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- (3) Enter a password and click [OK].

⇒ The password is set to the block.

Block File Name	Protection
BASE1	Yes
CHANGE	No
DATA COPY	No

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CAUTION

- When setting protection, make sure to safely manage the password.
- We cannot accept any request from any user, including persons responsible for setting passwords, to clear passwords that have been set.

TIP

To cancel protection, clear both [New Password] and [Confirm Password] boxes in the Set up Password dialog (i.e., leave the boxes blank), and click [OK].

B7.2.2 Changing Common Tag Name Definition Settings

You can set the maximum number of tag name definitions allowed and select downloads to the sequence CPU.

◆ Procedure ◆

- (1) In the Project Settings/Configuration window, select [Execution Block Components] in the tree.

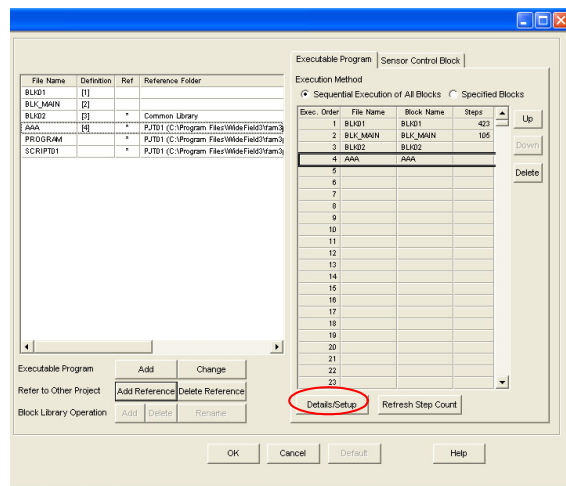
SEE ALSO

For details on how to open the Project Settings/Configuration window, see Section D3.1, "Building a Project" (Offline).

- ⇒ The Execution Block Components screen appears.

- (2) Click [Details/Setup].

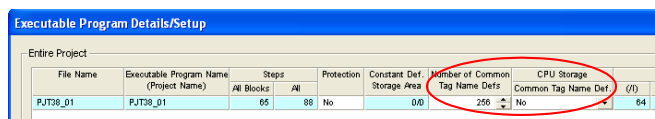
- ⇒ The Executable Program Details/Setup dialog appears.



Step (2)

B0702_03.VSD

- (3) In the [Entire Project] group box, change the [Number of Common Tag Name Defs] and [CPU Storage] settings.



Step (3)

B0702_04.VSD

- (4) Click [OK].

- ⇒ The settings are updated.

B7.2.3 Changing Block Settings

For component blocks, you can select the reference tag name definitions, specify the download setting of tag name definitions/comments to the sequence CPU, and specify the number of local devices used.

◆ Procedure ◆

- (1) In the Project Settings/Configuration window, select [Execution Block Components] in the tree.

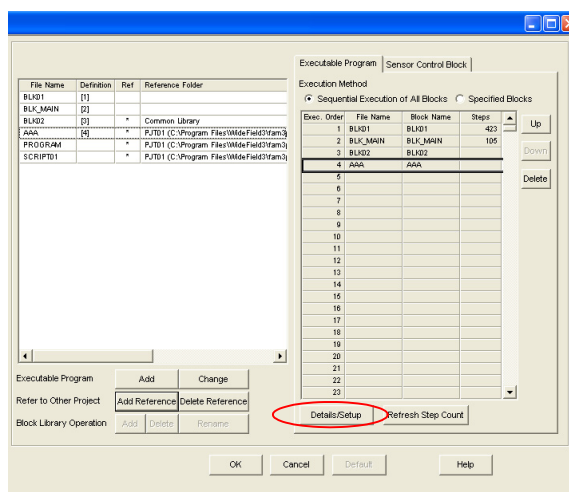
SEE ALSO

For details on how to open the Project Settings/Configuration window, see Section D3.1, "Building a Project" (Offline).

- ⇒ The Execution Block Components screen appears.

- (2) Click [Details/Setup].

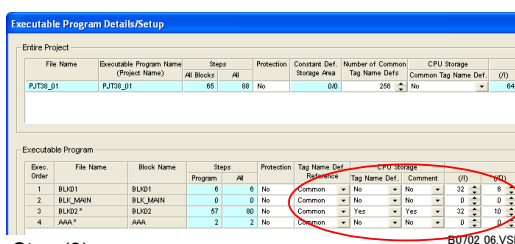
- ⇒ The Executable Program Details/Setup dialog appears.



Step (2)

B0702_05.VSD

- (3) In the [Executable Program] group box, change the [Tag Name Def. Reference], [CPU Storage] and [Local Device] settings.



Step (3)

B0702_06.VSD

- (4) Click [OK].

- ⇒ The settings are updated.

FA-M3

**Programming Tool WideField3
Introduction and Troubleshooting**

PART-C Troubleshooting Manual

IM 34M06Q16-01E 3rd Edition

This manual describes how to solve problems that might occur in WideField3.

C1. Precautions When Programming for a Multi-CPU System

If a system uses multiple CPUs, you need to create a project and develop programs for each CPU separately. This chapter describes precautions concerning project setup/configuration when creating the configuration for a multi-CPU system.

The slot numbers to be used in a program are set in the I/O setting in project setup/configuration. CPUs perform I/O refreshing according to this setting. If multiple projects share the same output module, the module may not operate normally. Thus, an output module used by a project should not be used by another project at the same time.

	1	2	3	4	5	6	7	8	9	10
Unit0		*	*	*				*	*	*

C01_01.VSD

Figure C1.1 Project A Uses I/O Slots 5 to 7

	1	2	3	4	5	6	7	8	9	10
Unit0		*	*	*	*	*	*			

C01_02.VSD

Figure C1.2 Project B Uses I/O Slots 8 to 10



CAUTION

The F3SP22/28/38/53/58/59/66/67/71/76 modules support sensor control blocks (SCB) in addition to normal blocks. SCB and normal blocks must be assigned unique slot numbers within the same CPU.

Current Project CPU Slot: 1

Refer to Other CPU I/O Setup

☐ Program Usage Status Check

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Unit0		S	N	N	N		*	*	*	*	*	*	*	*	*	*
Unit1																
Unit2																
Unit3																
Unit4																
Unit5																

Detailed Information

Normal.
*Can be used from this project but is not accessed from the program.

Use Setup | Input Setup | Output

Terminal	Terminal Usage	Data Code
All		
01-16	SCB	BIN
17-32	SCB	BIN
33-48	SCB	BIN
49-64	SCB	BIN

C01_03.VSD

Figure C1.3 SCB Uses Slot 2, and Normal Blocks Use Slots 3 to 5 on Unit 0

TIP

- A multi-CPU system refers to a system configuration with two, three, or four CPU modules mounted in a unit.
 - In Project Settings/Configuration, you can refer to the I/O settings of other CPUs to check whether there is any conflict.
-

SEE ALSO

- For details on multi-CPU systems, see "Sequence CPU – Functions."
 - For details on the project settings/configuration, see Section D3.1, "Building a Project" (Offline).
 - For details on the procedure for referring to the I/O settings of other CPUs, see Section D3.1.13, "Inter-CPU Shared Memory Setup" (Offline).
-

C2. Recovering from Communication Errors

This chapter describes how to recover from an error during communications between a personal computer and the FA-M3. If a communications error is detected for whatever reason (often if the communications cable is disconnected or the FA-M3 is switched off), WideField3 automatically detects the failure and displays the following message on the personal computer screen.

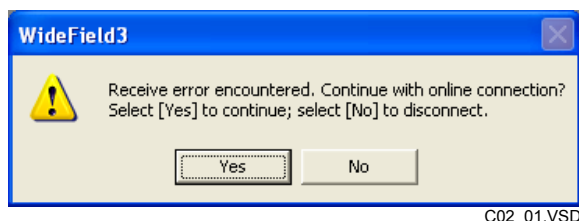


Figure C2.1 Communications Error Message

If you wish to continue the connection, you can check the cable and/or switch off and then switch on the FA-M3, and click [Yes] on the error message dialog box. This recovery measure may remove the cause of the error and allow you to continue operation (this measure will not work if the CPU communications mode before power off is changed after power on).

It is recommended that you click [No] to disconnect (all monitor windows will close automatically), check the communications cable, and reconnect online again by selecting [Online]–[Connect] from the menu bar.

If the power supply to the FA-M3 is inadvertently turned off during Ethernet communications, always click [No] to disconnect. If you click [Yes] in this case, a communications error will again be generated due to connection processing between the personal computer and the Ethernet interface module.

In the case of USB communications, the USB driver recognized by the PC may enter into an unknown state. If connection cannot continue, check the USB cable and/or switch off and then switch on the FA-M3, or disable and then enable the FA-M3 USB driver using Windows device manager.

TIP

When you select [Edit]–[Convert] from the menu bar to convert a program during online-editing, and then select [Debug/Maintenance]–[End Online Editing] from the menu bar to terminate online editing, online connection is terminated only after the converted program is successfully transferred (the CPU is notified of the program transfer status).

If WideField3 is forced to terminate, or the FA-M3 is switched off, or the communications cable is disconnected during the conversion or transfer, you must switch off and then switch on the FA-M3.

Try to ensure that the above events do not occur during conversion or transfer.

If protection is enabled for the connected CPU, operation cannot continue even if you select [Yes] on the communications error message dialog box even though reconnection may seem to be successful. You should disconnect by selecting [No] on the communications error message dialog box and then try to reconnect.

C3. Troubleshooting

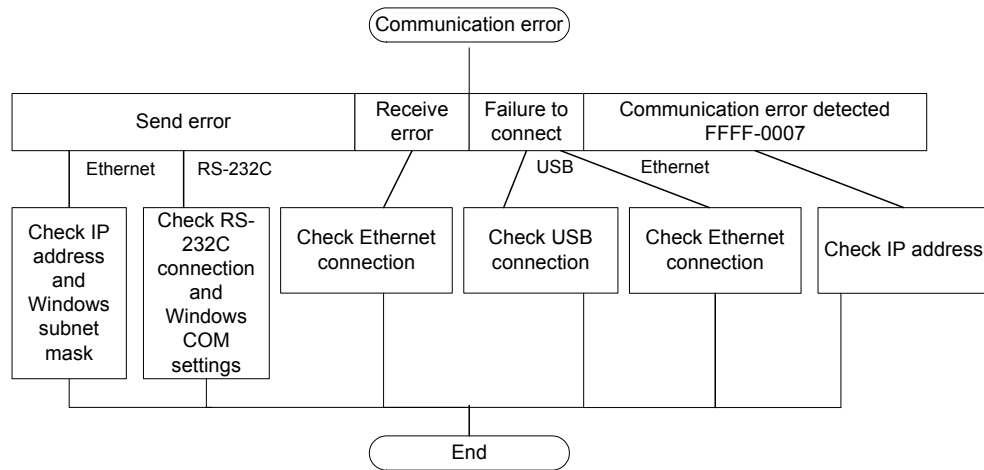
This chapter describes some common problems that you may encounter when using WideField3, and how to perform troubleshooting.



CAUTION

This chapter suggests some standard measures to troubleshoot various problems but these remedial measures may not always work.

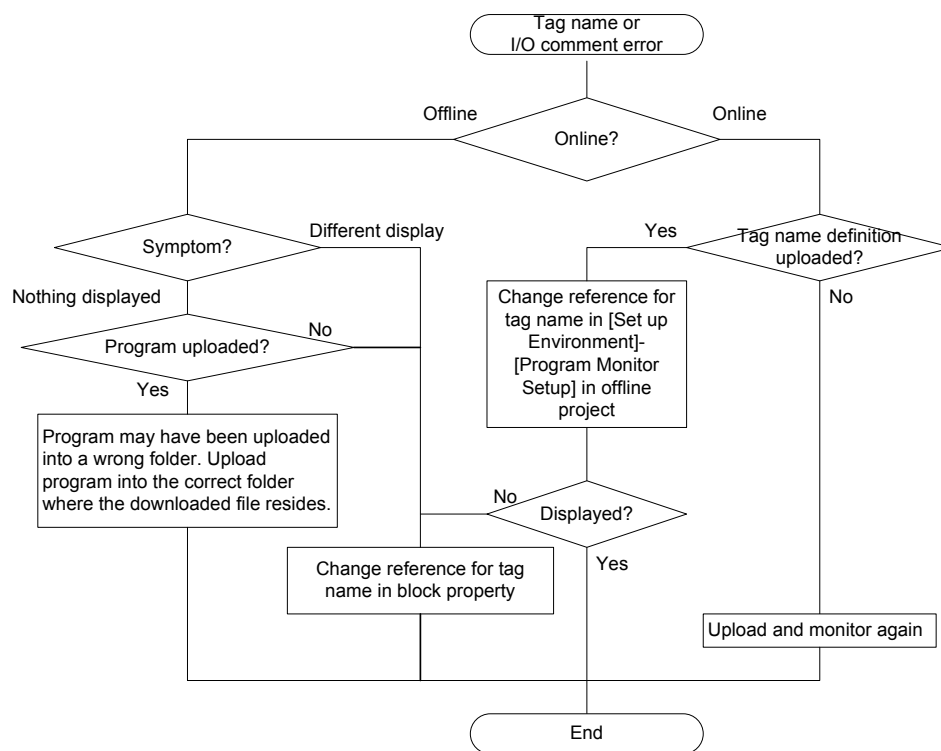
■ Communications Failure



C03_01.VSD

Figure C3.1 Communications Error

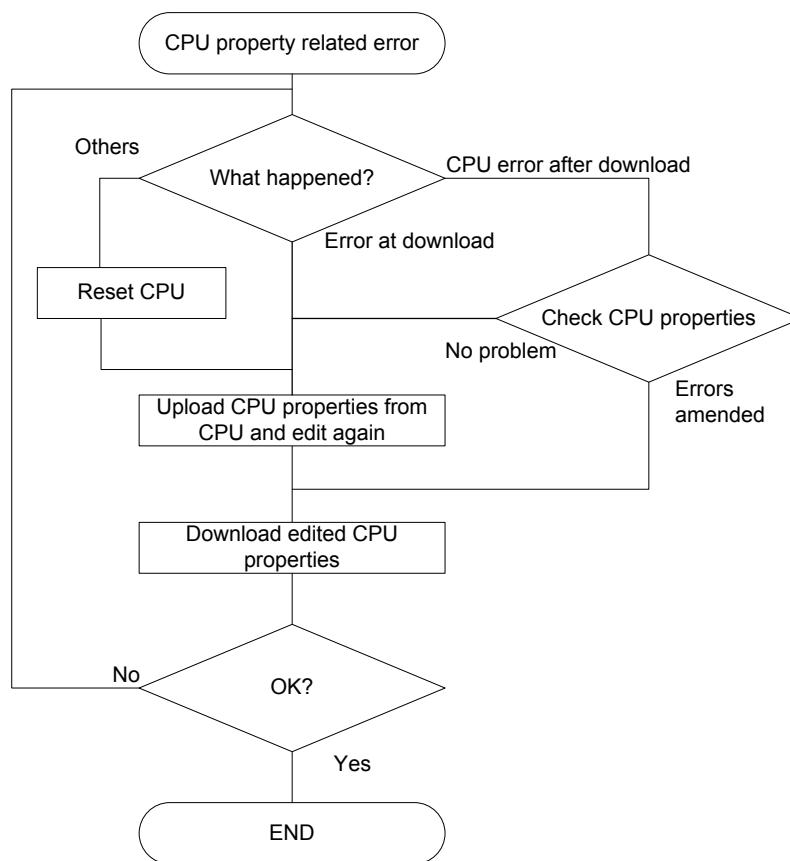
■ No or Incorrect Display of Tag Names and I/O Comments



C03_02.VSD

Figure C3.2 Tag Name Definition Error

■ Error Detected When Downloading CPU Properties



C03_03.VSD

Figure C3.3 CPU Properties Error

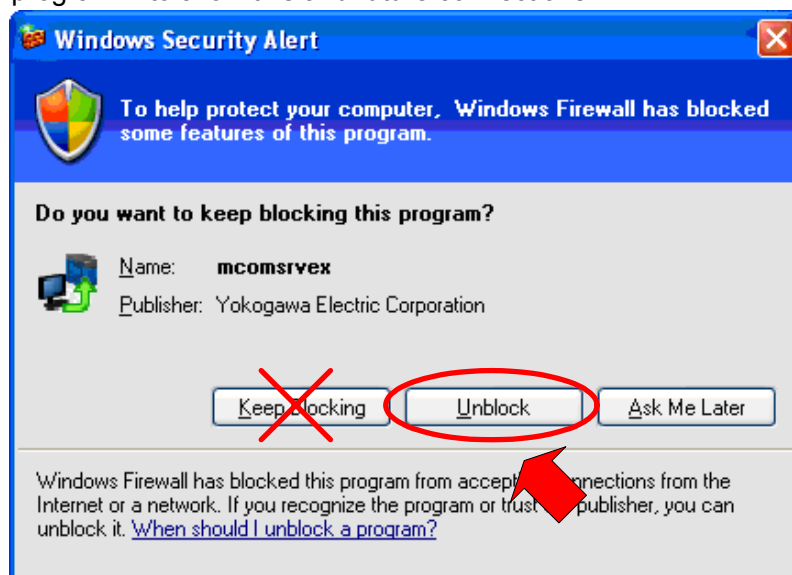
■ Failure to Establish FL-net Connection in Windows 7/Vista/XP SP2

Windows7, Vista and XP SP2 feature enhanced security functions. The installed firewall function may affect online connection using FL-net protocol in WideField3.

We describe here how to connect to FA-M3 using FL-net communication.

● Connecting using FL-net communication in WideField3

When executing online connection using FL-net communication in WideField3 under Windows XP SP2 environment, you may see the following security warning window. Select [Unblock] in response to the question: "Do you want to keep blocking this program?" to allow this and future connections.



C03_04.VSD

Figure C3.4 Windows Security Alert

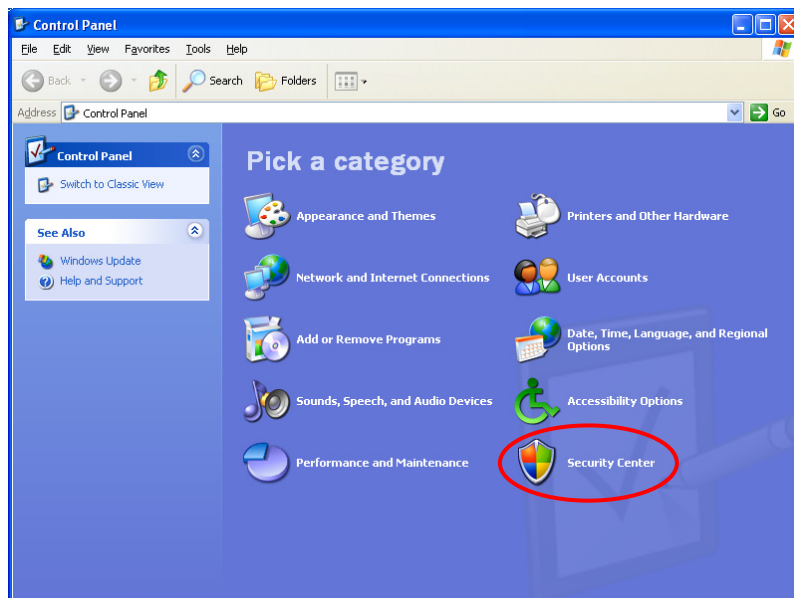
Selecting [Keep Blocking] instead of [Unblock] disallows communication.

If you select [Keep Blocking], you can still enable communication subsequently by configuring the Windows Firewall as described under "Configuring Windows Firewall to allow online connection using FL-net communication".

● Configuring Windows Firewall to allow online connection using FL-net communication

The setup described below can only be performed if you have selected [Keep Blocking] earlier. This setup is not required if you have selected [Unblock] instead.

1. Select and open Security Center from Windows control panel.



C03_05.VSD

Figure C3.5 Control Panel

2. Select and open Windows Firewall from the Windows Security Center screen.

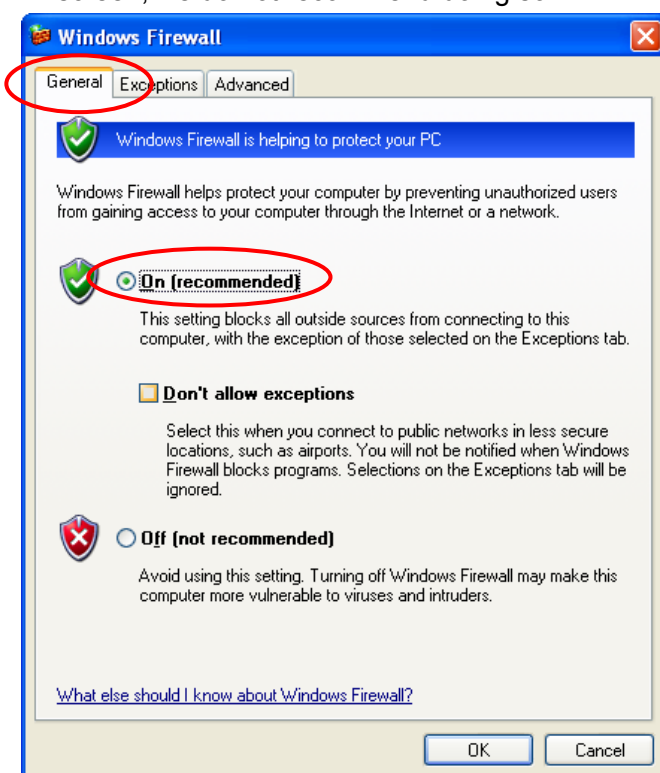


C03_06.VSD

Figure C3.6 Windows Security Center

3. Configure Windows Firewall.

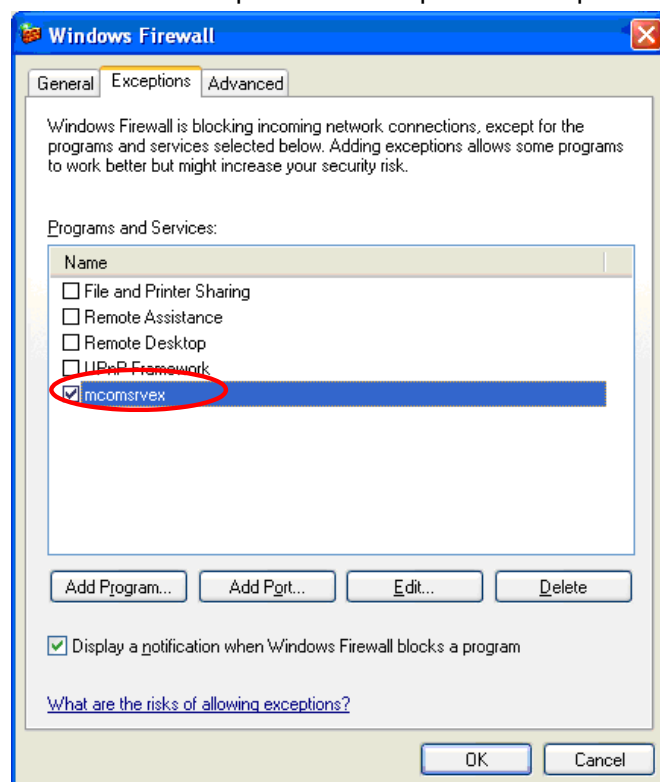
Although you can disable Windows Firewall by selecting [Off] on the General tab screen, we do not recommend doing so.



C03_07.VSD

Figure C3.7 Windows Firewall

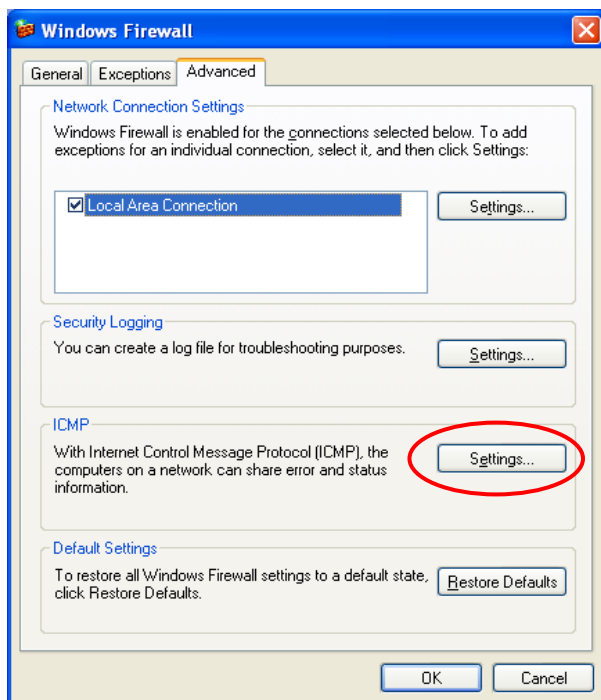
4. Click the Exceptions tab and perform setup as shown in the following screen.



C03_08.VSD

Figure C3.8 Windows Firewall

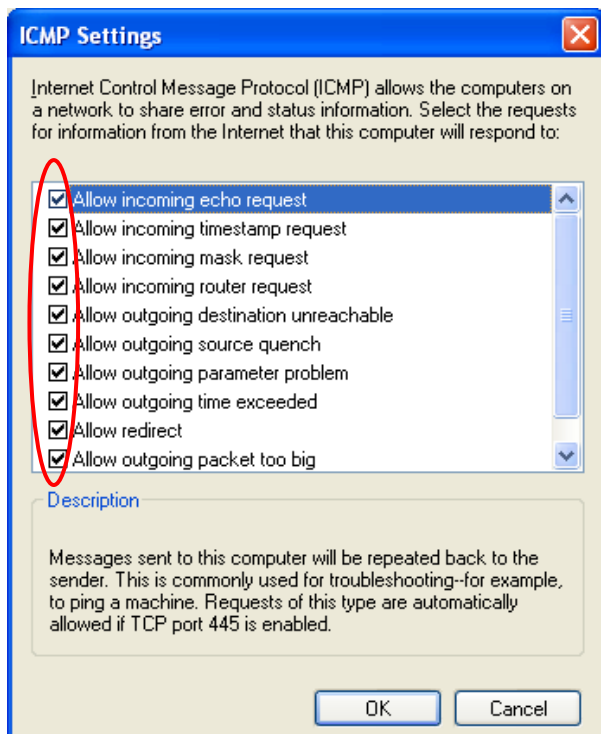
- Click the Advanced tab, and click [Settings] in the ICMP group box.



C03_09.VSD

Figure C3.9 Windows Firewall

- Turn on all checkboxes on the ICMP Settings screen.
This configures Windows Firewall to allow mcomsrvex requests and responses to pass through.



C03_10.VSD

Figure C3.10 ICMP Settings

- The setup is completed. Click [OK] to close all windows.

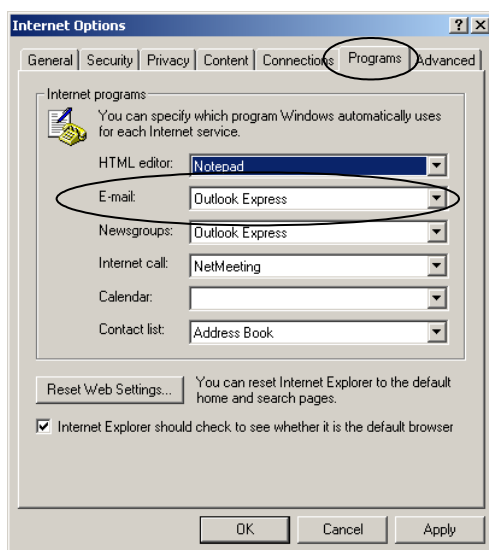
C4. E-mail Technical Support

The E-mail Technical Support function enables you to send an E-mail query to Yokogawa's technical support center from within WideField3. Selecting this function from the menu starts the mail program and displays a screen for preparing a new E-mail. The E-mail address of Yokogawa's technical support center is automatically entered as the default destination address for your convenience.



CAUTION

The Mailer program to be invoked is defined in the [E-mail] field on the Programs tab of the Internet Options dialog box of the Internet Explorer software.



C04_01.VSD

Figure C4.1 Mailer Settings

TIP

To display the Internet Options dialog box, select [Internet Options] from the Internet Explorer software or Windows control panel.

◆ Procedure ◆

(1) Select [Tools]–[E-mail to Technical Support] from the menu bar.

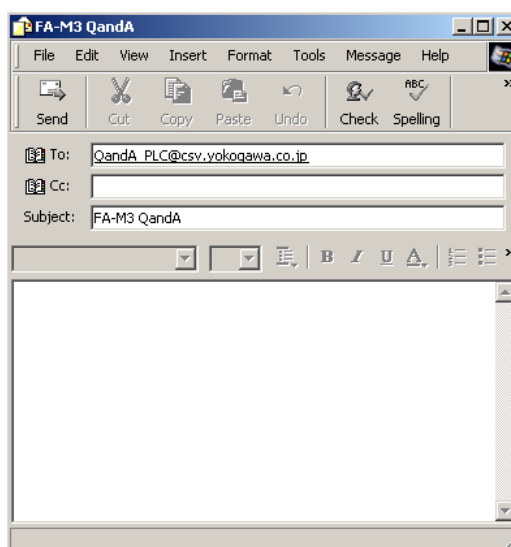
⇒ The mailer program is started and a screen for creating a new E-mail is displayed.

TIP

The E-mail address of Yokogawa's Technical Support Center is displayed in the destination address field by default.

(2) Create and send the mail, according to operating procedures of the mailer program.

⇒ The created mail is sent to Yokogawa's Technical Support Center.



Step (2)

C04_02.VSD

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